BASICS II Midterm Evaluation of the AIN Program in Honduras, 2000

Survey Report

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Abstract

This report presents the results of the 2000 midterm household survey and compares *Atención Integral a la Niñez* (Integrated Attention to the Child, or AIN) program communities with control communities served by the same health centers. The AIN program is the national growth monitoring and promotion strategy of the Ministry of Health of Honduras. The objective of the AIN midterm survey is to provide information on variables including program participation and knowledge, attitudes, and practices at the household level. The survey results show that in spite of having poorer living conditions, lower overall socioeconomic status, less access to health services, lower maternal education levels, and more live births per mother than caretakers surveyed in control communities, AIN caretakers have made impressive strides since the baseline survey in 1998 in a number of variables analyzed in this report. Variables that showed increased rates included exclusive breastfeeding among children under six months of age and the use of oral rehydration therapy among children with diarrhea. The survey also found that coverage of the AIN program is almost universal in the Honduran communities surveyed, with 92% of children under two years of age enrolled.

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Acronyms

AIM	*Atención Integral a la Mujer* (Integrated Attention to Women)
AIN	*Atención Integral a la Niñez* (Integrated Attention to the Child)
ANOVA	Analysis of Variance (statistical test)
ARI	Acute Respiratory Infection
BASICS II	Basic Support for Institutionalizing Child Survival II Project
BCG	Bacillus Camille-Guerin (tuberculosis vaccine)
BF	Breastfeeding
CESAMO	*Centro de Salud con Médico* (Health Center with Doctor)
CESAR	*Centro de Salud Rural* (Rural Health Center)
COMSAIN	*Comunicación en Salud Infantil* (Communication in Child Health)
DPT	Diphtheria, Pertussis, Tetanus
GMP	Growth Monitoring and Promotion Program
HF	Home Fluids
IMCI	Integrated Management of Childhood Illness
KAP	Knowledge, Attitude, and Practices
MOH	*Secretaría de Salud* (Ministry of Health)
MMR	Measles, Mumps, and Rubella
NGO	Non-Governmental Organization
ORS	Oral Rehydration Solution
ORT	Oral Rehydration Therapy
PAHO	Pan American Health Organization
PAI	*Programa Ampliado de Inmunizaciones* (Expanded Program of Immunizations)
PRAF	*Programa de Asignación Familiar* (Family Assistance Program)
SES	Socioeconomic Status
STI	Sexually Transmitted Infection
TIPS	Trials of Improved Practices
UNAH	*Universidad Nacional Autónoma de Honduras* (National University)
UNICEF	United Nations International Children's Fund
UPS	*Unidades Proveedores de Salud* (health centers)
USAID	United States Agency for International Development

Executive Summary

The *Atención Integral a la Niñez* (Integrated Attention to the Child) program is the national growth monitoring and promotion strategy of the Ministry of Health of Honduras. It uses a blended model of preventive and curative care that integrates nutrition and child health components. Adequate monthly weight gain is used as the key indicator to evaluate both nutrition and general health status. The response to instances of inadequate weight gain is to engage caretakers in negotiations of improved feeding and care practices, or if the child is ill, to help the family care and/or seek medical attention for the child.

The AIN program contains both an institutional component staffed by health center nurses and a community-based component supported by volunteers. The community-based component is targeted to children under two years of age for monthly growth monitoring and promotion (GMP) and to children under five years of age for management of common childhood illnesses, namely diarrheal disease and acute respiratory infections (ARI).

This report presents the results of the midterm household survey comparing AIN (intervention) communities with control communities served by the same health centers. This survey was conducted in the fall of 2000 in 60 of the original 100 communities sampled for the baseline survey in 1998. The findings presented in this report are based on analysis of the subset of 938 households (474 AIN, 464 control) from the baseline survey, which corresponds to the 1,168 households (596 AIN, 572 control) in the 60 communities surveyed at midterm.

The objective of the AIN midterm survey is to provide information on variables including program participation and knowledge, attitudes, and practices at the household level. The target population studied in this evaluation comprises caretakers of children under two years of age. Background data on households, caretakers, and postpartum care, as well as findings in a number of important program areas such as vaccinations, growth and development, diarrhea, acute respiratory infections, breastfeeding, and complementary feeding, are presented. The results of this evaluation document the changes that have occurred since the time of the baseline survey and provide a comparison to trends in control communities.

The survey results show that in spite of having poorer living conditions, lower overall socioeconomic status, less access to health services, lower maternal education levels, and more live births than mothers in control communities, AIN caretakers have made impressive strides in a number of knowledge and behavioral variables analyzed in this report. Knowledge, care-giving practices during illness, and feeding practices have improved, as have general variables related to participation in AIN.

Coverage of the AIN program is almost universal in the communities surveyed, with 92% of children under two enrolled, a significantly greater proportion than the 21% of children who

are enrolled in growth monitoring and promotion programs in control communities. At midterm, 9% of the mothers in AIN communities reported having received a postpartum visit from the AIN *monitora*, and in 39% of these visits the children were enrolled in the AIN program. Sixty-nine percent of children registered in AIN were enrolled by the age of three months. Earlier enrollment through home visits by AIN *monitoras* to register newborn children for the program would benefit these children in the critical first year of life.

With regard to the consistency of participation in AIN, 70% of children three months of age or older attended the program three times or more in the three months prior to the midterm survey. Although this rate has improved since the baseline survey, the rate still falls short of the program goal of 100% of children under two being weighed each month. In AIN communities, children three months of age or older who had attended the weighing sessions less than three times in the three months prior to this survey were no more likely to have received a home visit than those who attended regularly.

For variables related to growth, the knowledge of a child gaining weight as a sign of good growth increased significantly over baseline among AIN caretakers. Caretakers in AIN communities were significantly more likely to mention this sign at midterm than caretakers in control communities. Although caretakers in AIN communities were significantly less likely than control caretakers to cite the child being healthy as a sign of good growth at both baseline and midterm, both groups of communities showed significant gains over time. The converse of this sign—a sickly child—was understood to be a sign of poor growth by similar proportions of AIN and control caretakers at midterm. The proportion of AIN caretakers who know that children who do not eat well do not grow well doubled from baseline to midterm, outpacing the increase in this variable in control communities. Furthermore, AIN caretakers were significantly more likely to know how to stimulate a child's appetite to ensure that the child does eat well. One knowledge variable that was found to be lower than expected in AIN communities was the small proportion of caretakers (7%) who cited inadequate weight gain as a sign that would alert them that a child was not growing well, despite the emphasis that is placed on this message in counseling.

During the most recent weighing session, 93% of AIN caretakers were informed of the child's weight, and 85% were informed whether the weight was adequate. AIN caretakers in general were significantly more likely than caretakers in control communities to have growth cards for their children and to know how to interpret them. Growth cards for children in AIN communities were significantly more likely to include at least two measurements and to have growth tendencies correctly marked than cards for children in control communities. AIN caretakers were significantly more likely to have received counseling on breastfeeding, good feeding practices, caring for sick children, hygiene, iron and vitamin A supplementation, and vaccinations during the most recent weighing session than their counterparts in control communities. Interestingly, only two-thirds of the AIN caretakers recognized the counseling cards, which may indicate that the *monitoras* are not consistently using them after they become familiar with the counseling messages.

With regard to child health, there were positive findings for vaccinations and micronutrient supplementation. In the area of vaccinations, AIN communities had significantly higher

levels of coverage among children 12–23 months of age for DPT 3, Polio 3, measles, and fully immunized children.[1] In AIN communities, iron supplementation among children four months of age or older increased significantly from baseline and was significantly higher than the level of supplementation found in control communities at midterm. For vitamin A supplementation among children six months of age or older, both AIN and control communities decreased significantly over time; nevertheless, the midterm level in AIN communities was still significantly higher than in control communities.

The midterm survey studied the two common childhood illnesses of diarrheal disease and acute respiratory infections (ARI). One in three children in each group experienced an episode of diarrhea in the two weeks preceding the midterm survey. One in three AIN children were taken to either a *monitora* or health provider for care, compared to one in four control children. More than one in five children experienced an episode of ARI (defined as cough or difficult breathing and rapid breathing) in the two weeks preceding the midterm survey. Of these children, 36% in AIN were taken to a *monitora* or health provider for care, compared to 44% in control communities. Among those who sought care in AIN communities, *monitoras* were a larger proportion of care-seeking for diarrhea than for ARI. This finding is consistent with the fact that, at the time of the midterm survey, the AIN program was just beginning to expand the training of the *monitoras* with the introduction of a special module using IMCI protocols to treat ARI. For both illnesses, the care-seeking data showed that caretakers perceived *monitoras* as a source of care for common childhood illnesses as well as for growth monitoring and promotion.

In terms of care-giving practices for sick children, there were clear improvements for children with diarrhea in AIN communities compared to control communities. Oral rehydration therapy increased significantly from the baseline rate of 37% in AIN communities to 57% at midterm, outpacing the small gain in control communities (42% at midterm, from a baseline of 36%). Another significant gain in the AIN program was the increase in the combined indicator of children who were offered fluids *and* continued feeding during diarrhea from a baseline rate of 21% to a midterm rate of 33%, a significantly higher result than for control communities that had similar levels of about 16% at baseline and midterm. Rates for caretakers who maintained or increased breastfeeding remained high in both groups both for diarrhea (96% in AIN, 95% in control) and for ARI (91% for AIN, 88% for control). For complementary feeding, on the other hand, 6% of caretakers in AIN communities and 8% in control communities ceased feeding their children during this episode of diarrhea. Ten percent of caretakers in both AIN and control communities reported that they ceased feeding their child during this episode of ARI.

In terms of knowledge of danger signs, AIN caretakers were shown to be significantly more likely to have known two or more danger signs for dehydration and at least one danger sign for ARI than their counterparts in control communities. For knowledge of general danger signs, both AIN and control caretakers showed similar midterm results, with both groups having significant gains over their baseline rates. The increase in knowledge of general danger signs in AIN communities over time, however, significantly outpaced that of control communities.

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[1] Full immunization is defined as vaccination with BCG, 3 doses of DPT, 3 doses of polio, and measles.

Another important focus area for the program is knowledge and practices relating to breastfeeding. Although more than one-half of the caretakers in both groups cited their child falling ill less frequently as a benefit of breastfeeding, AIN caretakers were significantly more likely than controls to cite improved growth as another benefit. More than one-half of the AIN caretakers were aware of exclusive breastfeeding, and, four in every five of these women correctly cited six months as the appropriate time period. What is even more important for the program is that this knowledge is being translated into practice. Exclusive breastfeeding of children under six months rose from 21% at baseline to 39% at midterm in AIN communities, a significantly higher rate than the 13% found in control communities at midterm. As the rate of exclusive breastfeeding rises, the proportion of children being introduced to other liquids (such as water, other milk, juice, tea, and coffee) or complementary foods before reaching six months of age is decreasing in AIN communities.

In addition to evaluating the rate of exclusive breastfeeding, a composite child feeding score was calculated using the frequency of breastfeeding, the pattern of breastfeeding with complementary foods, the frequency of consumption of complementary foods, and the use of baby bottles as key practices that AIN seeks to improve. Caretakers in AIN communities were found to have significantly higher mean scores on this index at midterm for children 6–12 months and 12–23 months than their counterparts in control communities. AIN caretakers also scored significantly higher than controls on a composite score of general knowledge and attitudes that was based nine variables related to child feeding.

The results reported for the midterm evaluation demonstrate that the AIN community-based program is succeeding in its objective of promoting the growth of children under two years of age. Growth is promoted by integrating nutrition activities designed to improve feeding practices and nutritional status with prevention of illness. The illness prevention measures include vaccinations and appropriate care-giving and care-seeking practices for children with diarrhea and acute respiratory illness.

The midterm survey findings show that the AIN program is being implemented as expected. This is supported by the evidence of good coverage among children under two in AIN communities, of regular contact being made with the caretakers of these children at monthly weighing sessions, and of specific counseling being tailored to each child's growth trend and health. As the midterm findings for diarrhea and ARI demonstrate, AIN *monitoras* are recognized by their communities as a resource for primary health care. The high level of participation and frequent contacts with caretakers by AIN *monitoras* are leading to improved coverage of all vaccines except BCG, which appears to be lagging due to the lower prevalence of institutional births in AIN communities. The AIN program has also proven to be effective in improving coverage of iron supplementation and in maintaining high levels of vitamin A coverage.

In addition to highlighting some of the accomplishments of the AIN program to date, the midterm results also indicate that some aspects of the program should be strengthened. These aspects include encouraging early enrollment of children through home visits to newborns, strengthening the consistency of participation in monthly weighing sessions (toward the goal

of 100% of children being weighed each month), and increasing the use of counseling cards as a tool for improving the practices of caretakers.

1. Introduction

1.1 Situational Analysis of Honduras [2]

Honduras is a Central American republic with an estimated population of 5.6 million and an annual growth rate of 2.8%. The per capita gross national product of Honduras is one of the lowest in the Western Hemisphere and, consequently, the population faces problems of poor nutrition, health, and education.

Although Honduras is modernizing, about one-half of the population resides in rural areas. About one in every four Honduran households do not have access to potable water on their property, more than one in every five does not have an adequate sanitary facility, and two in every five do not have electricity.

Honduras has demonstrated a significant decline in under-five mortality in the past decade to a rate of 45 per 1,000 live births in 2001. Forty-two percent of those deaths occur in the first month of life. Diarrhea with dehydration and acute lower respiratory infection are two leading causes of child death. Contributing to the under-five mortality rate is a stagnant rate of under-nutrition in young children, which is primarily due to diseases and poor feeding practices rather than a lack of food.

Basic health services are provided by the *Secretaría de Salud* (Ministry of Health, or MOH). The MOH, through the Department of At-Risk Populations, gives high priority to programs that address the needs of women and children, particularly in improving their access to services. The MOH supports three national programs to do this: Integrated Attention to the Child (AIN), Integrated Attention to Women (AIM), and the Expanded Program of Immunizations (PAI). In each program, the MOH looks to:

a) decentralize service provision networks focused on the hard-to-reach populations to achieve better efficiency, equity, and participation,
b) improve the capacity of health personnel in the system,
c) increase community participation in health sector planning, and
d) diversify health sector funding.

The U.S. Agency for International Development (USAID) is a major supporter of the efforts of the Ministry of Health and has declared "Sustainable Improvements in Family Health" as a strategic mission objective. For USAID and the Honduran government, this objective means increasing access and equity in health services utilization. In order to reach communities that have poor development indicators, the government chose to move some services to the community level by extending the AIN program. The intensive focus is on the under-two

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[2] Data cited in this section are drawn from the *Encuesta Nacional de Epidemiología y Salud Familiar, 1996* with the exception of household characteristics and mortality which are drawn from preliminary tabulations of the 2001 national survey.

population, which is targeted by monthly contacts in the community and guidance on child feeding and basic care as well as by follow-up on vaccinations and micronutrient supplementation. All children under five who are ill receive assessment, classification, basic care, and some treatment and referral for diarrheal disease and acute respiratory illness. The treatment initially comes through the health center component of AIN and later is available through the community component, once the community volunteers have been trained in illness management.

USAID's support to the MOH has been continuous since 1981, starting with the bilateral Health Sector I and II programs (1981–2000) and continuing with the *Nueva Programación* agreement (New Program between the MOH and USAID for 2001–2003). Since 1995, a major focus of USAID has been its support of the Ministry of Health's national *Atención Integral a la Niñez (*AIN) child health program through the Health Sector II and III projects and with technical support from the BASICS I and II Projects. The AIN program, which has been created, refined, implemented, and now expanded to new areas, has become a model for targeting services to those most in need. The program focuses on services that prevent health problems as well as treat them, and on community management supported by occasional external consultations from health centers.

1.2 History and Development of the AIN Program

The AIN program in Honduras began in the early 1990s when the MOH began to use adequate growth, not nutritional status, as the indicator of child health. This approach—promoting growth of children by assessing adequate gains in weight on a monthly basis—would detect problems at an early stage. This could act as a catalyst for solving problems of illness, poor feeding practices, or general child care at the household level in the critical first two years of life when children are most susceptible to permanent damage from malnutrition.

Realizing that coverage was the key to success and that good coverage could not be achieved by limiting services to the facility level, the government decided to offer growth promotion in the community. In 1992–1993, pilot tests of the community program got underway in the health areas of Copán, Lempira, and La Paz. The pilot testing was successful, and the program expanded to more health areas and to more communities within those health areas. In 1994, the MOH defined AIN as its child health strategy. The MOH established AIN as a child health program in facilities, included standard case management, and expanded the community program.

In 1995, the BASICS I Project, funded by USAID, reviewed the initial community experience (in terms of health worker and community perceptions) and the potential for sustainability. The study found strong commitment among health workers and a high level of participation of mothers in the program.

In 1996, the MOH convened a national workshop with participants from the original pilot areas and representatives of health regions to review the findings of the BASICS assessment and to discuss areas for strengthening the program. Several needs emerged: to systematize the structure of the program, to document the experiences to date, to develop tools for

implementing the program, to develop a training system, and to link AIN with the national strategy for equity in health care delivery (*ACCESO*). BASICS hired local consultants to work with the MOH to produce materials and later hired a nurse/nutritionist to develop and coordinate training. As materials were developed, lessons from successful large-scale programs in other countries were added to strengthen the available tools. These concepts included the bar chart for assessing a community's progress[3], counseling cards, and a stronger emphasis on illness management. Trials of Improved Practices (TIPS) research[4] provided insight as to what families could do to improve the dietary intake of their children. The results from this research were used for facility IMCI protocols and counseling cards.

During 1996 and early 1997, a full set of materials for the community program were developed. These materials included a guide for institutional personnel based on MOH norms, a manual for volunteer community counselors known as *monitoras*, a training curriculum, and a series of 20 counseling cards (*láminas)* that were developed with technical assistance from the BASICS I Project. The concept of *adequate* weight gain (as opposed to any weight gain) was also added to the program, and a table of minimum weight gain was adapted from CLAP materials. For each weighing, the *monitora* would be able to determine the minimum expected weight for each child for the next AIN session.

Using these materials, institutional training in AIN began in 1997 in 9 of the 42 health areas in Honduras. Within any given health area, AIN was introduced to all health centers[5] by training the nursing staff. The health centers then moved the program out of the centers to the communities and introduced AIN to new communities at the rate of two per year per health center. In the same year, the clinical component of Integrated Management of Childhood Illness (IMCI) was instituted at the facility level to serve children under five and includes a complementary community-based component of AIN focusing on children under two.[6] During this time, the AIN program continued to evolve as the technical content of the program was reviewed and improved.

The official launching of the institutional training took place from October 1997 to March 1998 for regional, area, and sector health staff who later served as facilitators for training in health centers of the original nine health areas. In order to launch community AIN programs, meetings were held with local leaders and families in each community to discuss the program and to recruit a team of volunteers to serve as *monitoras* in their communities. Frequently, the new recruits were women who had served in other volunteer positions, including positions in other MOH initiatives, prior to working with the AIN program. Typically, the *monitoras* work in small teams with at least three members. They are supervised by an auxiliary nurse from the health center corresponding to their area. These nurses in turn are

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[3] The bar chart graphs monthly monitoring data in five columns that show the number of children registered for the program, the number weighed that month, the number who had adequate weight gain that month, the number with inadequate weight gain that month, and the number who had inadequate weight gain in that month and the prior month.

[4] TIPS is the methodology recommended by the World Health Organization for the IMCI food box adaptation.

[5] These health centers are known locally as *CESAMOs (Centros de Salud con Médico*) or *CESARs (Centros de Salud Rural*), depending on whether there is a physician on staff.

[6] In Honduras the entire program—both institutional and community components—is referred to as "AIN." This evaluation focused on the community component of the AIN program.

supervised periodically by the health sector or area nurses. *(Please refer to Annex A for an overview of the structure of the health sector in Honduras.)*

From December 1997 to March 1998, all 192 health centers in the original 9 health areas covered by the program received training in the AIN program. Each of these health centers then established two community programs. For each community, community baselines and maps were prepared by supervising nurses with the assistance of volunteers, and *monitoras* were recruited and trained. In March 1998, each community concluded the preparatory phase —which had began with the first meeting with the community—by holding its first monthly growth promotion session. Over time, this community-level preparatory process has been accelerated from a period of about six months to about three months, on average.

In the fall of 1999, the MOH issued a decree establishing AIN as a national, community-based, child health and nutrition program and a blended model of preventive and curative care. Program guidance was to first focus the community-based program on prevention and on early detection and referral of sick children under two years of age. The health center component of the program continued to serve children under five, until the AIN *monitoras* completed training in illness management. An illness management module was to be added to the community program within six months of the launching of the basic AIN program in a community. At the time of this survey, only a few communities in the nine health areas that are the subject of this evaluation had been trained, so the impact of this training was not measured by the midterm survey.

The AIN program has expanded beyond MOH facilities to include other institutions such as local NGOs. Training in the AIN program for students at the National Autonomous University of Honduras (UNAH) initiated the revision of the professional nursing curriculum and established a relationship with the university. Later the approach was extended to the Universities of San Pedro Sula and la Ceiba and to nurse auxiliary schools. BASICS participated in this process by developing a curriculum for a course in AIN programming.

Beyond expansion through an increasing circle of partner organizations, AIN is also expanding geographically, both to new health areas and by increasing the density of the program as more communities are added to existing areas. An inter-institutional committee (IIC) for AIN/IMCI has been consolidated and is led by the MOH. The IIC comprises USAID, BASICS II, UNICEF, PAHO, American and Honduran Red Cross, NGOs (CARE, MERCY Corps, Save the Children, World Neighbors), PRAF (an income transfer program of the President's Office that is funded by the Inter-American Development Bank), UNAH, and students from nurse auxiliary schools.

1.3 Description of the AIN Program

The basic structure of the community AIN program is focused on monthly growth monitoring and promotion sessions. At each session, *monitoras* weigh each child under two years of age, record the weight on the child's growth card (which the caretaker retains) and on the community register, assess the child's growth rate relative to the expected weight gain, plot the growth curve on the card, and provide counseling. As part of the counseling, the

monitoras inquire about the child's health and the caretaker's care and feeding practices, using one or more of the set of 20 counseling cards (*láminas)*. Each caretaker is counseled on how to maintain or improve growth with key messages on breastfeeding, child feeding, illness care, and hygiene. Referrals to the health center are given for seriously ill children. Health center personnel are also often available for immunizations, vitamin A and iron supplementation, and family planning. For newborns, children who are absent from the monthly weighing sessions, and children with inadequate weight gain or illness, the *monitoras* make follow-up home visits.

The monthly weighing sessions are held regularly on the same day each month (with minor variance due to holidays) so that the caretakers know when to bring their children to be weighed. Monthly monitoring data are compiled from the community listing forms and reported to health centers. The data are presented in bar charts that illustrate the results of the monthly weighing session by the number of children registered, the number weighed, the number gaining adequate weight, the number gaining inadequate weight, and the number gaining inadequate weight for two consecutive months. Three or four times a year, the volunteers, health center, and municipality hold community meetings to discuss the growth of the children and to plan collective actions that will create a favorable environment for child growth.

The AIN program is based on the following premises:
1) Malnutrition contributes to more than 50% of child mortality. Therefore, to achieve gains in mortality reduction, more should be done to lower rates of mild and moderate malnutrition. This is especially true in countries with decreasing mortality rates but static malnutrition trends.
2) Malnutrition is a process, not a state of being. The vast majority of malnutrition occurs in the first two years of life, so attention must be focused on these critical years. Since most children are born healthy, it is easier and more efficient to keep them healthy than to rehabilitate them.
3) The failure to grow or gain weight is a visible, objective sign of a problem. It is, therefore, a good mechanism to target children who need extra attention before a problem becomes difficult to correct.
4) Because a child develops rapidly in the first two years of life, contact must be frequent (monthly) to detect problems and maintain growth.
5) Correcting many nutrition and health problems is within the capacity of families if the problems are detected early and if the families are given proper advice and support in applying the advice. First efforts should be directed at improving practices in the family before looking for solutions outside the family or community.
6) Reaching all children in a community improves equity and therefore public health impact.

This program has the potential to impact child health nationwide as it strives to reach all of a community's families with children under two with the full package of preventive services provided by community *monitoras*. The program also reaches families of children under five with basic illness recognition, treatment, and referral services.

2. Methodology

2.1 Survey Objectives and Conceptual Framework for the Evaluation

The AIN program evaluation plan is designed to provide pre- and post-intervention comparisons (both cross-sectional and longitudinal) between intervention and control communities with baseline, midterm, and final household surveys. The comparison of AIN communities and control communities over time demonstrates the contribution of the AIN program to the reduction in the prevalence of malnutrition and in the duration and severity of illness in children under two years of age. While the baseline and final surveys include data on program impact, the midterm stage documents data on changes that occur in intervention communities during program implementation compared to the data of control communities. The evaluation also examines knowledge, care-seeking, and treatment for common childhood illnesses as the AIN program has expanded to include the identification, treatment, and referral for these illnesses.

The objective of the 2000 AIN midterm survey was to provide information on variables, including program participation and knowledge, attitudes, and practices at the household level. The target population studied in this evaluation comprises caretakers of children under two years of age. In addition to providing information on the current status of these variables, the midterm survey data will contribute to conclusions on program effectiveness and impact when coupled with final evaluation data. Thus, as shown in Figure 2.1, the overall conceptual framework for the evaluation of the AIN program may be summarized as a series of steps beginning with program exposure and participation and leading to the eventual goal of impact in improving child nutritional status and health.

Figure 2.1: Conceptual Framework for the AIN Evaluation

Program Exposure	→	Program Participation	→	Improved Knowledge & Attitudes	→	Improved Practices	→	Improved Nutrition & Health
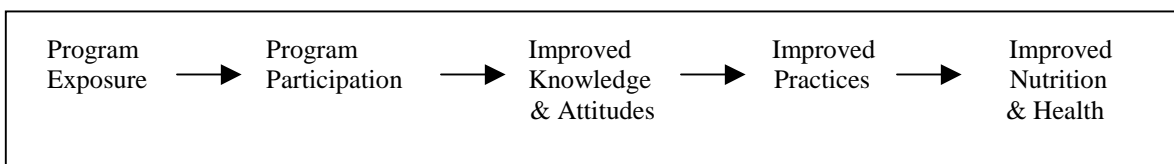
Of particular relevance to public health impact within this conceptual model are the areas of improved practices and improved nutrition and health status. These areas have measurable indicators related to improved counseling and treatment for diarrhea and acute respiratory illness (ARI) and to the promotion of improved practices related to feeding for children under two years of age.

2.2 Review of the Baseline Survey Design

The 2000 midterm survey parameters parallel those used in the 1998 baseline household survey of the AIN program. At that time, BASICS I conducted a household survey in six of the nine original health areas covered by the AIN program as the first stage in the three-part longitudinal evaluation.

The 1998 baseline used a stratified sample with four stages. At the first stage, the health areas were classified in one of three geographic strata—urban, mixed, and rural—according to the classification perceived to be the dominant type in that health area. Two health areas were randomly selected for each of the three strata, giving a total of six health areas: Metro San Pedro Sula, Choloma/Lima, Puerto Cortés, Siguatepeque, Santa Cruz de Yojoa, and La Paz. It is important to note, however, that these classifications of geographic strata were made for the purpose of obtaining a sample that would reflect the breadth of experience of the AIN program in different settings rather than as the result of the application of a rigorous formula of population density. Thus, these distinctions within the overall sample consider the characteristics of the health areas *relative to each other*. The majority of the communities in five of the six health areas studied (Metro San Pedro Sula being the exception) are in fact predominantly "rural." For this reason, the analysis of midterm data is not presented by these relative "strata."

At the second stage, *Unidades Proveedoras de Salud* or *UPS* (health centers) were randomly selected within each of the six health areas, with the probability of selection proportional to the number of health centers in that health area relative to the total number of health centers.

At the third stage, communities were selected. In each health center, the lists of communities selected by the MOH for participation in the AIN program over the next year were used to select the communities. The study communities were selected with probability proportional to size with 40 households considered as the minimum size for inclusion of a community in the selection process. Once the AIN communities were selected, control communities serviced by the same health center were matched to the selected AIN communities based on community size and estimates of distance to health center. By matching pairs of AIN and control *communities* (not households), the AIN and control groups can be analyzed as independent groups.

At the final stage, households were randomly sampled within the selected communities using community maps that identified all households with a child under two years of age. A summary of this sampling design is provided in Table 2.1.

Table 2.1: Summary of the Levels and Process of Selection of the Sample

Level of Selection	Selected	Type of selection
Strata	Health Areas	Completely random
Health Areas	UPS health centers	Completely random
UPS	AIN Community	Random by UPS
	Control community	Paired with the AIN community by: 1) Distance from the health center 2) Size (the one most similar to the AIN community being the one selected)
Community	Household	Systematic random sampling

To allow for comprehensive program evaluation, the baseline sample size was based on a 95% confidence level ($\alpha = 0.05$, $\beta = 0.80$) and an expected 10% reduction in the prevalence of malnutrition as the impact indicator. The sample size obtained was 1,467 children under two years of age with a subsample of 769 for the more detailed 24-hour recall and food frequency questionnaires. The baseline survey aimed to sample 15 children under two years of age per community in a total of 100 communities (50 AIN and 50 control).

2.3 Sampling Design for the Midterm Survey

The sampling design used for the baseline survey was repeated in the midterm. For this reason, the design is considered to be longitudinal *at the level of the communities*.

Given that the objective of the midterm survey was to assess program implementation and not to determine program impact, the survey planning team decided that a smaller sample size would be sufficient. Using the list of communities selected at baseline as a guide, the survey planning team selected a subset of communities for the midterm survey. The criterion for inclusion of an AIN-control community pair was that *both* communities had to have had at least 15 children under the age of two at the time of the baseline. This criterion allowed more efficient data collection, with the recognition that some bias might be introduced into the sample as the smaller (but not necessarily the most remote) communities were eliminated. Therefore, to control for potential bias, the analyses between baseline and midterm data sets used only those communities from the baseline data set that were resurveyed for the midterm.

Annex B summarizes the list of health centers and their paired communities that were included in both midterm and baseline surveys versus the paired communities that were excluded from the midterm sample and the reason for eliminating them from the sample. Given the variety of circumstances that led to exclusion of some pairs, the remaining 31 AIN-control matched communities were included in the midterm sample design, allowing a margin of error over the desired sample of 30 pairs. During fieldwork, substitute control communities could not be identified to replace two communities in which an NGO had launched an AIN program, leading to a final tally of 31 AIN and 29 control communities surveyed. *(Please refer to Annex C for a list of the selected communities.)*

2.4 Sample Size and Selection of Households

Within each household selected for the midterm survey, interviewers selected the youngest child under two years of age as the index child, and the caretaker of this child was asked to complete the individual child questionnaire. Because the midterm survey did not include impact measures that had been included in the baseline (child anthropometry and 24-hour dietary recall), the survey planning team expected the interviewers to achieve an average sample size per community of between 18 and 21 households, an increase over the target of 15 households per community used in the baseline survey.

The resulting sample was designed to detect statistically significant changes over the baseline with a 95% confidence level ($\alpha = 0.05$; $\beta = .80$, where Ho: $P_{AIN} = P_{Control}$). Assumptions in the sample design included: a sampling design effect of 2, unknown variance for a binomial indicator of two independent populations, and 10% loss due to lack of response. A sample size of 21 households per community was calculated as sufficient to demonstrate a minimal significant difference of 13% between AIN and control groups in key indicators related to practices.

2.5 Design and Content of the Questionnaires

The midterm survey used a household questionnaire and an individual child questionnaire that were based on the questionnaires used for the baseline in 1998, with some modifications. These modifications included slight clarifications in the wording on some questions to allow careful distinctions between activities of AIN *monitoras* versus traditional birth attendants (*parteras*) or CESAR / CESAMO health center staff, the addition of more precoded responses for some questions, the addition of questions on programmatic aspects of AIN, and the reordering of some questions for more logical flow and skip patterns. In addition, one entire section on participation in community activities, including growth monitoring and promotion programs, was moved from the child questionnaire to the household questionnaire in order to ensure that responses relating to the AIN *monitoras* were clearly identified from the beginning of the interview.

The final version of the household questionnaire contained 27 questions that addressed general information on the environment in which the child is being raised, including aspects of housing, socioeconomic status, age and sex composition of the family, and participation in community social assistance programs.

The individual child questionnaire focused on the "index child" of each household, who was the youngest of all children under two years of age living in the household at the time of the survey. This questionnaire contained 213 questions on a variety of the following health and nutrition topics:

- Characteristics of the caretaker
- Delivery and postpartum care
- Vaccinations and micronutrient supplementation
- Growth and development

- Diarrheal disease
- Acute respiratory infections
- Breastfeeding
- Feeding practices

The content of the sections in the midterm questionnaire for the individual child sought to capture the following types of information:

Characteristics of the caretaker: In the communities surveyed, the caretaker is most frequently the mother of the child; nevertheless, there are cases where the mother works or for other reasons may be out of the house for extended periods of time during which another person is charged with child care. Thus, this section first identified the main caretaker of the child and that person's relationship to the child. It then focused on basic characteristics of the mother or other caretaker that can influence knowledge, attitudes, and practices related to raising a child, including the following:
- Age of the mother or other caretaker
- Presence of a spouse or male companion in the household
- Number of live births the mother has had
- Number of children who died before the age of 4 years
- Maximum education level attained by the mother or other caretaker
- Employment status and type
- Amount of time the mother is away from the home

Delivery and Postpartum Care: This section included data on the following topics:
- Location of the delivery
- Birthweight
- Existence of a vaccination or health card for the child
- Whether the mother received a postpartum home visit, by whom, and the activities of the visit

Vaccinations and Micronutrient Supplementation: To complete this section, the interviewers requested the child's vaccination card from the caretaker being interviewed. If the card was available, the interviewer copied the data directly onto the questionnaire. If no vaccination card was available, the interviewer asked a series of questions to collect recall data. The topics covered in this section included:
- Vaccinations
- Vitamin A supplementation for children over 6 months of age
- Iron supplementation for children over 4 months of age
- Deworming treatments

Growth and development: This was the largest section of the questionnaire. This section sought to ascertain the child's participation in a growth monitoring and promotion program as well as the mother's general knowledge and attitudes concerning child growth. This section specifically looked at the following:

- Whether, where, and how long after birth the child was first taken for growth monitoring
- Caretaker's perception of the child's growth
- Data on enrollment, participation, and counseling in growth monitoring and promotion programs (GMPs)
- Home visits from GMP staff, including frequency of visits, reasons for visits, activities, and advice given
- Message on inadequate growth that the caretakers may have received
- Data from growth cards on weights, plotting of the growth curve, caretaker's comprehension of the growth curve, knowledge of signs of faltering growth, and advice received
- Recognition of the AIN program counseling cards

Diarrheal disease: In this section, the questions on diarrheal disease focused on episodes in the two weeks preceding the survey and on care-seeking and care-giving practices. An effort was made to distinguish between care-seeking and advice from AIN *monitoras* and care-seeking and advice from CESAR/CESAMO staff and other health care providers. Specifically, data on the following were collected:
- Incidence and duration of diarrhea and signs of blood or dehydration
- Whether care was sought, in what order care was sought if multiple providers were consulted, how long after the episode began was care sought, what advice was received, whether the advice was followed, and if not, why not
- Prescriptions received and treatment given directly by the mother
- Use of oral rehydration solution (known as *litrosol* in Honduras)
- Breastfeeding and complementary feeding practices during and after the episode
- Knowledge of practices to minimize incidence of diarrhea and attitude concerning recognition of serious episodes

Acute respiratory infections: In this section, the questions on acute respiratory infections focused on episodes of cough or difficult breathing accompanied by rapid breathing in the two weeks preceding the survey and on care-seeking and care-giving practices. Care-seeking and advice from AIN *monitoras* and care-seeking and advice from CESAR/CESAMO staff and other health care providers were distinguished. Specifically, data on the following were collected:
- Incidence of acute respiratory infections and danger signs present
- Whether and from whom care was sought, in what order care was sought if multiple providers were consulted, how long after the episode began was care sought, what advice was received, whether the advice was followed, and if not, why not
- Prescriptions received and treatment given directly by the mother
- Breastfeeding and complementary feeding practices during and after the episode
- Attitude concerning recognition of serious episodes

Breastfeeding: This section began with two initial questions to determine what type of contraceptives, if any, were being used by the mother of the child, and then asked a series of

questions on breastfeeding practices and general experience of the mother, including the following:

- Whether the child was ever breastfed and if not, why not
- Current status of breastfeeding and if it has stopped, at what age it stopped, and why
- Whether the mother has ever expressed milk for her child
- Frequency of breastfeeding by day and by night
- Whether counseling was received before weaning the child or because of problems, from whom, and what type of advice was received
- Knowledge of benefits of breastfeeding, exclusive breastfeeding, and ways to stimulate production of breastmilk

Feeding practices: This section expanded on the breastfeeding questions to collect more in-depth data on weaning practices and the beliefs affecting these practices. Data on the following were collected:

- Use of baby bottles
- Age when other liquids and foods were first introduced
- First complementary foods introduced
- Frequency of feedings of complementary foods per day
- Attitudes concerning introduction of water, other liquids, and foods including ideal age of introduction, preparation of complementary foods, the timing of the last meal of the day, and the amount that a healthy two-year old child should be expected to consume
- Experience with children who have problems of appetite or faltering weight gain, practices, whether and from whom advice was sought, advice received, whether the advice was followed and if not, why not

(Please refer to Annex S for a copy of the full midterm questionnaire.)

2.6 Training, Field Work, and Logistics

For the midterm survey, three study teams were used, each consisting of three interviewers, one supervisor, and one driver. These teams were closely supervised by the local study coordinator. The majority of the personnel in these field teams were very experienced in conducting surveys on maternal and child health. Four of the interviewers and the study coordinator had participated in the baseline survey conducted in 1998.

Training of the fieldwork staff began with an orientation of the supervisors to the objectives of the survey and to the content and approach to completing the questionnaires for data collection. Administrative responsibilities were discussed, as was the management of the community maps used to select households for application of the questionnaires. The listings of children under two years of age collected prior to the survey from the *monitoras* for the AIN communities and from vaccination records at health centers and community representatives in control communities were also discussed. A manual for supervisors was prepared and distributed at the training.

Training on the content of the questionnaire and conducting interviews took place September 11–14, 2000. The classroom training included the following:

- Discussion of the technical content of the interviews
- Review of each section of the questionnaires with explanations of the concepts involved and the manner in which to ask the questions and record responses
- Discussions on the AIN model and the training of the *monitoras* for assessing and recording weights for children and on the content of counseling provided to mothers
- Role plays of interviewing techniques

Following the classroom training, on September 18–19, 2000, the interviewers and supervisors field tested and validated the questionnaire to test its functionality and to complement the classroom training. Interviews were conducted in two communities—one AIN and one control—in the Department of Francisco Morazán, which is located outside the survey area. A period of two days was considered sufficient for this field test and validation process since the questionnaire was based on the baseline instrument that had been more thoroughly tested.

In the following two days (September 20–21, 2000), the team discussed this experience and reviewed the questionnaire in detail. This allowed them to identify some erroneous skip patterns, to slightly improve the wording on a few questions, and to consolidate the training of the fieldwork team.

Fieldwork began on September 24, 2000 and continued until October 25, 2000. Supervisors were supplied with logistical information to facilitate travel and overnight stays for the fieldwork teams, with listings of children under the age of two in the study communities, and with maps of the communities that they were to visit. The maps showed the location of all households in the community, and households with children under two were circled. However, these maps were only current for AIN communities; for control communities, the selection of households depended on the listings of children under two that were provided by the respective UPS and updated on the day of the survey with community leaders.

Upon completion of each interview, the interviewers reviewed the questionnaires before leaving the households. At the end of the day's work, the survey teams met to exchange experiences, to review the questionnaires with their supervisors, and to make any necessary corrections before leaving the study communities. The supervisors and the study coordinator rotated among the interviewer staff to observe their interviews and continuously motivate them to maintain high standards of quality in the data collection. Each day, one community per team was completely interviewed. This schedule was maintained despite heavy rains, which made travel in mountainous areas a challenge.

2.7 Data Handling and Analysis

Data entry for the midterm survey was conducted in the Epi Info Program developed by the U.S. Centers for Disease Control (CDC). Two data entry staff and one data entry supervisor were responsible for all data entry, and all questionnaires were double-entered to facilitate

validation checks. Data entry staff received their initial training on September 23, 2000, and then the data entry program was tested using questionnaires from the field test. Adjustments were made and data entry began on October 2, 2000. The cleaning and validation of the data entry files took place in November and December 2000.

Once the data entry files had been cleaned, data analysis began. The preliminary data analysis was completed by July 2001 using Epi Info and CSAMPLE software from CDC. After technical review of the preliminary findings in September 2001, additional data analysis, statistical testing, and calculations of the Child Feeding Index, knowledge scores, and socioeconomic scores were conducted using SPSS and STATA. The data presented in this report are unweighted.

2.8 Statistical Testing

Statistical testing for the results reported in the midterm survey was conducted using the Pearson Chi-Square and Analysis of Variance (ANOVA) for differences between AIN and control groups at baseline and at midterm. Logistic regression was used to test for interactions between group *and* time period. Variables that were found to be statistically different are mentioned in the text of this report. The specific *p* value is mentioned as a footnote to the tables displaying the results, or (in cases where there is no corresponding table) the *p* value is included in the discussion of the results in the text.

When the results being reported are included in a table, the symbol (†) is used if the result is found *between groups at a single time period*. The symbol (§) is used when the result is *an interaction between both group and time*. These symbols are usually indicated at the level of the *baseline* or *midterm* heading for the AIN group to indicate a statistical difference between groups at a single time period and at the *AIN heading* to indicate interactions between group and time. However, in cases where multiple, non-exclusive responses are possible to a single question (such as possession of multiple household amenities like radio and television sets), the result is marked at the level of the specific response showing the difference. Summary levels of results are distinguished using three *p* values: $p \leq .05$, $p \leq .01$ or $p \leq .001$. Table 2.2 below summarizes the statistical symbols used in this report and their meanings.

Table 2.2: Symbols Used in Marking Statistically Significant Results

Type of difference represented	Symbol	P Value
Between groups in a single time period	†	$p \leq .05$
	††	$p \leq .01$
	†††	$p \leq .001$
Interaction between group and time	§	$p \leq .05$
	§§	$p \leq .01$
	§§§	$p \leq .001$

3. Description of the Sample

The total sample size obtained in the midterm evaluation was 1,168 households, each with one index child. This was less than the the projected sample of 1,260 described in the survey design, but it is sufficient to show a statistically significant change of at least 13% on average in the indicators included in this analysis. The sample size was large enough to allow comparisons to the subsample of 938 households from the baseline data set corresponding to the community pairs that participated in *both* the baseline and midterm surveys. *(Please refer to Appendiz C for a list of communities surveyed for the midterm by health area and UPS.)* There are minor discrepancies between the two data sets due to the fact that three baseline "control" communities had received the AIN program in the interim between the surveys. A substitute control community was identified for only one of these communities in the midterm data set.

The midterm sample is divided between AIN with 596 households and control with 572. Table 3.1 shows the breakdown of the sample by health area. *(Please refer to Annex D for details of the baseline sample used.)*

Table 3.1: Midterm Sample Size, by Health Area

Health area	AIN		Control		Total	
	% of total	Number of households in area	% of total	Number of households in area	% of total	Number of households in area
Metro San Pedro Sula	14.1	84	13.5	77	13.8	161
Choloma/Lima	16.3	97	22.0	126	19.1	223
Puerto Cortés	17.6	105	16.3	93	17.0	198
Siguatepeque	24.3	145	15.9	91	20.2	236
Santa Cruz de Yojoa	17.3	103	17.7	101	17.5	204
La Paz	10.4	62	14.7	84	12.5	146
Total number of households	596		572		1168	

The total midterm sample of 1,168 children (one index child per household) was found to consist of 51% male children, compared to 49% female in both AIN and control communities as shown in Table 3.2.

Table 3.2: Midterm Sample Size, by Sex of the Index Child

Sex of the child	AIN		Control		Total	
	% of total	Number	% of total	Number	% of total	Number
Masculine	51.2	305	51.2	293	51.2	598
Feminine	48.8	291	48.8	279	48.8	570
Total number of children	596		572		1168	

The midterm sample was distributed across age groups as shown in Table 3.3. In each household, the index child selected was the youngest child of all children under two years of age living in the household. Overall, the mean ages of children in months are similar in AIN (10.8) and control (10.6) at midterm.

Table 3.3: Midterm Sample Size, by Age Group of Child

Age of the child (in months)*	AIN		Control		Total	
	% of total	Number in this age group	% of total	Number in this age group	% of total	Number in this age group
0 to ≤ 3	11.7	70	12.8	73	12.2	143
> 3 to ≤ 6	13.4	80	12.4	71	12.9	151
> 6 to ≤ 9	12.2	73	15.9	91	14.0	164
> 9 to ≤ 12	18.3	109	15.4	88	16.9	197
> 12 to ≤ 15	15.6	93	14.0	80	14.8	173
> 15 to ≤ 18	11.1	66	11.4	65	11.2	131
> 18 to ≤ 21	7.4	44	10.5	60	8.9	104
> 21 to ≤ 24	10.2	61	7.7	44	9.0	105
Total number of children	596		572		1168	

4. Household Findings

4.1 Composition of Households by Sex and Age

As shown in Table 4.1, both AIN and control communities that were sampled for the midterm survey have similar averages of about 3.2 males residents and 3.3 female residents per household. The average number of people overall is similar in both groups with 6.43 in AIN households and 6.55 in controls at midterm. Averages were also similar at baseline. In fact, the only statistically significant changes were in AIN communities where the average number of *male* residents declined from 3.38 at baseline to 3.15 at midterm, and the average number of residents of both sexes declined from 6.82 at baseline to 6.43 at midterm ($p < .05$).

Table 4.1: Midterm Household Composition, by Sex and Group

Group	Men	Women	Total
	Average number of men per household	Average number of women per household	Average number of people per households
AIN	3.15	3.28	6.43
Control	3.21	3.35	6.55
TOTAL	3.18	3.31	6.49

Table 4.2 shows the distribution of the average numbers of people per household across age groups. The age and sex distributions are generally similar between AIN and control communities. There are, however, a few statistically significant differences between AIN and control communities at midterm that were not present at baseline. These differences include more females aged 3 to < 5 years and more adult males and females >18 years in control communities. This is consistent with the somewhat larger average household size found in control communities at midterm.

Table 4.2: Midterm Household Composition, by Age, Sex, and Group

Age group	Males Average number of males per household	Females Average number of females per household	Total Number of households
AIN			
From 0 – < 12 months	.30	.28	
From 12 to < 24 months	.28	.27	
From 2 yrs. to < 3 yrs.	.12	.14	
From 3 yrs. to < 5 yrs.	.24	.21 [†]	596
From 5 to 18 yrs.	1.01	1.03	
> 18 years	1.20 [††]	1.37 [†]	
Control			
From 0 – < 12 months	.31	.27	
From 12 to < 24 months	.27	.25	
From 2 yrs. to < 3 yrs.	.12	.11	
From 3 yrs. to < 5 yrs.	.24	.28	572
From 5 to 18 yrs.	.94	.95	
> 18 years	1.33	1.48	

† $p \leq .05$ (based on ANOVA test)
†† $p \leq .01$ (based on ANOVA test)

4.2 Household Characteristics

The surveys also accumulated data on a series of basic measures of housing that describe the source and type of water used, the type of sanitary facilities available to the household, the number of rooms and bedrooms in the house, whether one room was dedicated to use as a kitchen, the type of fuel used in cooking, the presence of certain appliances, and the type of flooring. The time and cost of reaching the closest health center were also addressed as an indication of access to health services.

At the time of the baseline survey, the results for the entire sample of communities did not reveal any statistically significant differences between AIN and control groups. However, at the time of the midterm survey, several of the household variables (including source of water; type of water treatment; type of sanitary facilities; number of rooms and bedrooms in the house; type of cooking fuel; and presence of electricity, radio, television, refrigerator, and telephone) were found to show statistically significant differences between groups, with the control communities having an apparent advantage over AIN. An analysis of these characteristics for the subsample of baseline communities, which were resurveyed at the time of the midterm, also show underlying statistically significant differences for certain variables. These variables included source of water; number of rooms in the house; type of cooking fuel; and the presence of electricity, television, and telephone. The differences were not apparent when the entire baseline data set was analyzed. The tables in the sections that follow indicate the results that are statistically significant at midterm and at what level (*p* value) they are significant, as determined using the Pearson Chi-Square test. *(For a complete presentation of baseline results for the subsample of communities resurveyed at the time of*

the midterm, please refer to Annex E.) Interactions between group and time period were also studied and are reported in Section 4.3 on socioeconomic status (SES) variables.

4.1.1 Water and Sanitation

As seen in Table 4.3, by far the most common source of water for both AIN (62%) and control communities (65%) was a tap located outside of the house but still on the respondent's property. A tap inside the house was less common for AIN households (9%) than for controls (15%). AIN households were more likely to have had to go off their property for access to tap water (12%) than were households in control communities (8%). Households in AIN communities were also more likely to use a natural source of water such as a river or lake (11%) than were controls (4%).

Overall, slightly more than one-half of the households in both groups consumed the water directly from the source without any further treatment. The households that treated their water did so by chlorinating, boiling, or purifying it.

Few households in either group had flush toilets, and only about one-third had hydraulic or covered latrines. Pit toilets were also used by one in five households in AIN communities, compared to one in four in controls. More than one-third of the households in AIN did not have access to any sanitary facility at the household level, compared to about one-fifth in control communities.

Table 4.3: Water and Sanitation Characteristics of Households at Midterm

	AIN		Control		Total	
	%	Number of households	%	Number of households	%	Number of households
Principal source of water †††						
Tap inside household	8.7		14.5		11.6	
Tap outside household, but on property	61.9		64.9		63.4	
Tap off property < 100 m.	5.9		4.5		5.2	
Tap off property > 100 m.	6.5		3.0		4.8	
Natural source (river, lake, etc.)	10.9	596	4.0	572	7.5	1168
Well with bucket	1.5		0.5		1.0	
Well with pump (electric or manual)	3.2		5.1		4.1	
Purchased water	0.5		0.2		0.3	
Protected water source	0.8		1.0		0.9	
Other	0		2.3		1.1	

	AIN		Control		Total	
	%	**Number of households**	**%**	**Number of households**	**%**	**Number of households**
Type of drinking water ††						
Electro-purified	6.2		10.8		8.5	
Chlorinated	21.3		20.1		20.7	
Boiled	20.0		14.2		17.1	
Consumed straight from source	52.0	596	53.1	572	52.6	1168
Other	0.5		1.7		1.1	
Type of sanitation †††						
Flush toilet	11.9		16.4		14.1	
Hydraulic latrine / covered latrine	31.5		36.2		33.8	
Pit toilet	20.1	596	26.2	572	23.1	1168
None	36.2		21.0		28.8	
Other	0.2		0.2		0.2	

†† p ≤ .01 (based on Pearson Chi-Square test)
††† p ≤ .001 (based on Pearson Chi-Square test)

4.1.2 Housing and Amenities

Most of the households surveyed in the midterm reported living in houses with three or fewer rooms, where only one room served as a bedroom despite average family sizes of over six people. Most of the households had a separate room used as a kitchen, and firewood was by far the most common type of fuel used in cooking. About one-half of the households in both groups had cement floors. In AIN, the other one-half predominately comprised households with dirt flooring, whereas households with dirt flooring accounted for less than one-third of control households. Detailed midterm findings for these variables are presented in Table 4.4. *(Please refer to Annex E for baseline findings.)*

Table 4.4: Characteristics of Housing at Midterm

	AIN		Control		Total	
	%	**Number of households**	**%**	**Number of households**	**%**	**Number of households**
Number of rooms in the household †††						
One room	22.7		18.5		20.6	
Two rooms	32.7		22.0		27.5	
Three rooms	23.8	596	28.8	572	26.3	1168
Four rooms	12.9		17.8		15.3	
Five or more rooms	7.9		12.8		10.3	
Number of rooms used as bedrooms †††						
One room	73.5		60.5		67.1	
Two rooms	19.1	596	26.6	572	22.8	1168
Three or more rooms	7.4		12.9		10.1	

	AIN		Control		Total	
	%	Number of households	%	Number of households	%	Number of households
A separate room is used for a kitchen						
Yes	68.3	596	70.5	572	69.3	1168
No	31.7		29.5		30.7	
Type of fuel used in the cooking ††† §						
Firewood	78.4	596	66.8	572	72.7	1168
Liquid gas / kerosene	8.6		11.4		9.9	
Propane gas	8.4		13.6		11.0	
Electricity	4.7		8.2		6.4	
Predominate material in flooring ††† §§						
Dirt	46.3	596	30.4	572	38.5	1168
Wood	0.3		1.2		0.8	
Cement	48.8		53.8		51.3	
Clay Tile	0.8		0.9		0.9	
Ceramic tile	3.7		13.5		8.5	
Other	0		0.2		0.1	

† $p \leq .05$ (based on Pearson Chi-Square test)
††† $p \leq .001$ (based on Pearson Chi-Square test)
§ $p \leq .05$ (based on logistic regression analysis test)
§§ $p \leq .01$ (based on logistic regression analysis test)

In terms of household amenities, significant differences were found for households with electricity, both in terms of the trend over time, which increased in control communities while it decreased in AIN communities, and in the overall proportions of households with electricity at midterm, which was lower in AIN communities (45%) than in controls (73%). At midterm, the respondents in AIN communities were also significantly less likely to have possessed radios, television sets, refrigerators, or telephones than households in control communities. For televisions and refrigerators, the trends over time in the two groups were also significantly different: the proportions of AIN households with these amenities was similar to baseline, while the proportion of controls increased. Although few households in either group had motor vehicles and the proportions were similar at midterm, there was a significant difference between the trends in both groups: the proportion of control households with a vehicle increased significantly over time, while it decreased in AIN. Table 4.5 depicts these household findings. *(Please refer to Annex E for baseline findings.)*

Table 4.5: Household Possession of Amenities at Midterm

	AIN		Control		Total	
	% with amenity	Number of households	% with amenity	Number of households	% with amenity	Number of households
Electricity §	45.0 †††		72.6		58.5	
Radio	77.5 †		82.5		80.0	
Television §§	38.8 †††	596	60.0	572	49.1	1168
Refrigerator §	14.4 †††		25.7		19.9	
Telephone	0.5 †††		3.0		1.7	
Motor vehicle §	4.2		6.6		5.4	

† $p \leq .05$ (based on Pearson Chi-Square test)
††† $p \leq .001$ (based on Pearson Chi-Square test)
§ $p \leq .05$ (based on logistic regression analysis test)
§§ $p \leq .01$ (based on logistic regression analysis test)

4.3 Socioeconomic Status (SES)

The socioeconomic status (SES) of AIN and control communities was calculated for this report using the following household variables: (1) source of water; (2) cooking fuel; (3) type of sanitary service; (4) presence of electricity; and (5) presence of selected amenities, including radio, television, refrigerator, telephone, and vehicle. *(Please refer to Annex F for detailed information on the specific responses and points assigned to each variable in calculating the SES score for each household.)*

When comparing the SES levels of the two groups from baseline to midterm, as shown in Figure 4.1, it is clear that the distribution of AIN communities among the three categories of low, medium, and high SES has changed little from baseline to midterm. Control communities, on the other hand, have made gains in reducing the number of households at the lowest SES level: from 33% at baseline to 21% at midterm, with corresponding increases at the medium level from 60% to 65% and at the highest level from 7% to 14%. The differences between AIN and control groups were found to be statistically significant in both baseline and midterm surveys ($p \leq .001$).

Figure 4.1: Comparison of SES Levels Between Groups
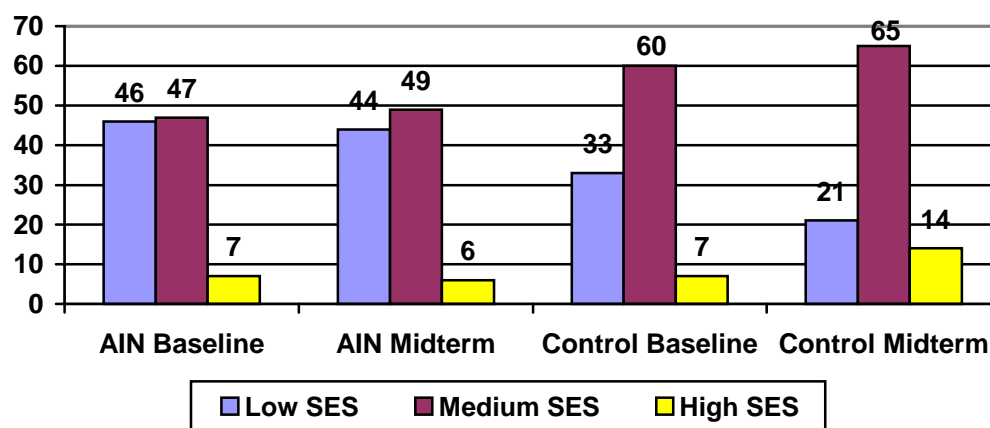
Individual variables from the SES score were tested with logistic regression to assess changes over time. Significant interactions between group *and* time were identified for electricity, cooking fuel, ownership of a refrigerator, and ownership of a vehicle at the level of $p \leq .05$ and for ownership of a television and flooring material at the level of $p \leq .01$.

4.4 Access to Health Services in Terms of Time and Cost

For the baseline survey, the AIN and control communities were paired at the level of the health center based on estimates of similar size and distance to the health center. However, the midterm results revealed a statistically significant difference between the two groups ($p \leq .001$) in terms of distance to the health center. This underlying difference was found in the subsample of baseline communities used for comparison to the midterm ($p < .05$), but it is not found in the baseline sample taken as a whole. The control group at midterm thus appears to have an advantage over the AIN group in terms of the distance (in minutes) to the health center. Almost three-fourths of households in control communities, compared to a little more than one-half of households in AIN communities, in the midterm evaluation reported having access to a health center within one hour. Figure 4.2 below provides a more detailed comparison of these distances.

Figure 4.2: Time Spent to Reach Health Services at Midterm
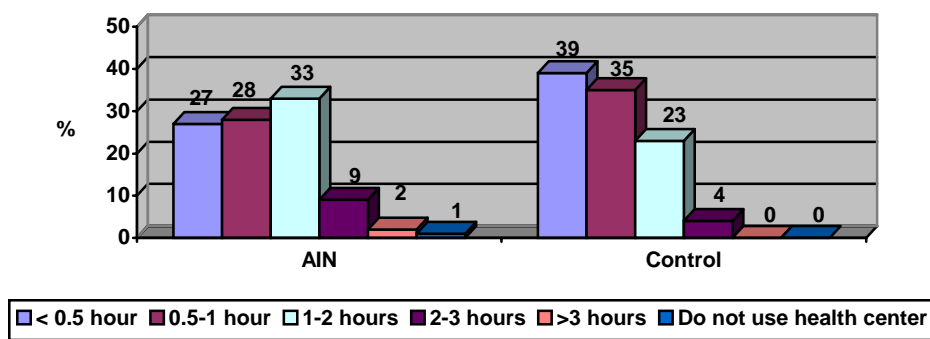
Despite the shorter distance to health centers for control communities, the cost in accessing services is similar, with 24% of households in AIN communities compared to 28% in control communities reporting no cost at all at the time of the midterm survey. Overall, the costs associated with accessing health services seem to have increased over time in both AIN and control communities. Slightly less than one-half of the AIN communities reported using 10 lempiras or less[7] to reach a health center at midterm compared to slightly more than one-half in control communities. At baseline, nearly three-fourths of both AIN and control households were able to access health services for 10 lempiras or less. The differences between AIN and control communities shown in Table 4.6 were not statistically significant between groups at baseline or midterm.

Table 4.6: Cost in Transportation and Food to Reach Health Service

Cost	AIN				Control			
	Baseline		Midterm		Baseline		Midterm	
	%	Number of households	%	Number of households	%	Number of households	%	Number of households
No cost	53.2		23.5		47.4		28.0	
Less than 5 Lempiras	5.5		4.4		8.8		6.5	
From 5 to 10 Lempiras	14.3		18.6		13.6		16.4	
From 11 to 15 Lempiras	3.8		5.4		3.7		4.0	
From 16 to 20 Lempiras	9.3	474	19.1	596	7.8	464	16.8	572
From 21 to 30 Lempiras	5.1		9.2		8.0		9.6	
From 31 to 50 Lempiras	7.4		11.2		7.5		13.1	
More than 50 Lempiras	1.3		7.9		3.2		5.4	
No cost reported	0.2		0.7		0		0.2	

4.5 Social Assistance Programs

Questions at the beginning of each interview established whether respondents were aware of the AIN program in their communities and were able to differentiate AIN from other social assistance programs. This was a critical factor in determining whether later responses on health services received could be clearly attributed to the *monitoras* of the AIN program. At the time of the baseline survey, 27% of the respondents in the AIN communities were aware of a growth monitoring and promotion program (GMP) in their community, compared to 96% at midterm as shown in Table 4.7. Both the increase over time in AIN and the difference between AIN and control at midterm were found to be statistically significant.

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[7] This is equivalent to US $0.67 at the exchange rate of L15:$1 in use at the time of the survey.

Table 4.7: Comparison of Awareness of Growth Monitoring and Promotion Programs in Community at Baseline and Midterm

	AIN				Control			
	Baseline †††		Midterm †††		Baseline		Midterm	
	%	Number of households	%	Number of households	%	Number of households	%	Number of households
Know of GMP program in community §§§	26.6	474	96.3	596	7.1	464	15.0	572
Do not know of GMP program in community	73.4		3.7		92.9		85.0	

††† p ≤ .001 (based on Pearson Chi-Square test)
§§§ p ≤ .001 (based on logistic regression analysis test)

Table 4.8 presents the overall data on the participation in any social assistance program for the entire sample of households in AIN and control communities. At midterm, 93% of the AIN respondents reported registration or participation in AIN. The most common program after AIN is the Maternal-Child "*Bono*" Program, which is a government financial assistance program for poor families with children under five years of age. In order to receive financial assistance, children must complete their vaccinations and participate in monthly weighing sessions, and mothers must receive prenatal checkups. This program is targeted at areas with high child morbidity and mortality. The difference of 13% participation in AIN communities compared to 9% in controls is not statistically significant. The remaining social assistance programs had little participation from caretakers in these communities.

Table 4.8: Participation in Social Assistance Programs at Midterm

	AIN		Control	
Participation in programs in community	% who participate	Number of households	% who participate	Number of households
Maternal Child "*Bono*" Program	12.6	596	9.4	572
Community feeding (*Comedor / Lactario Comunal*)	0		0.2	
World Vision	0		0.2	
CARE	0.5		2.8	
Aldea Global	1.2		0	
AIN program	93.0 †††		2.6	
Other	3.0		3.5	

Note: Percentages may total more than 100 if people participate in more than one program.
††† p ≤ .001 (based on Pearson Chi-Square test)

4.6 Discussion of Findings

At the time of the baseline survey when all 100 communities in the sample were studied, the results of the analysis of household variables were similar between the AIN and control groups. When the midterm results were compared only to the baseline communities that had been resurveyed for the midterm, however, some significant underlying differences emerged in this subset of communities. In terms of several household variables such as source of water, type of water treatment, type of sanitary facilities, and flooring material, the AIN

communities in the midterm sample are disadvantaged, compared to the control communities. Households in AIN communities are more likely to have dirt floors. These findings are important since more limited access of AIN communities to clean, piped water on their property and to adequate sanitary facilities and housing creates a greater risk of diarrheal disease and resulting episodes of faltering growth for children in AIN communities. Also, the greater prevalence of firewood as the predominate cooking fuel in AIN communities could potentially contribute to more episodes of acute respiratory infections in these children.

In terms of overall socioeconomic status (SES), control communities were found to be in an advantageous position relative to AIN communities. Control communities had fewer households in the lowest SES group at midterm and more improvements in SES over time, compared to static SES levels in AIN communities. This difference in SES may be partially related to the higher average number of adult males in control households. Control communities surveyed at midterm also had an advantage in better access to health centers (in terms of distance in minutes), which would be expected to lead to an improvement in child health indicators. These findings will be reviewed again at the time of the final survey to assess whether the advantages found in the control communities at midterm can be confirmed across the entire sample of communities.

Given the high level of participation achieved in AIN communities, it is clear that the AIN program has been extremely successful not only in promoting community awareness of the program, but also in recruiting caretakers of children under two to participate in the program. Subsequent chapters in this report will highlight findings which show that the AIN program is in fact contributing to statistically higher rates on a number of child health indicators despite the relatively disadvantaged position of the AIN communities at midterm.

It is interesting to note that a small percentage of households in control communities mentioned an awareness of an AIN program in their community at the time of the midterm. Given that health center personnel from the UPS have been trained in AIN even though community programs have not been initiated in control communities, this is most likely a reference to the AIN activities at the health center level.

It is important to note that the survey design compares intervention (AIN) and control communities and assumes that community membership remains static over time. This may not be an accurate assumption in the aftermath of Hurricane Mitch, during which time population movements were reported as families in areas affected by the hurricane sought shelter with relatives in other areas. However, since tracking these population movements is outside the scope of this survey, the potential influence of this factor on the survey results cannot be assessed.

5. Caretaker Characteristics

In this chapter, basic characteristics of the caretakers are analyzed including age, educational level, and the nature of the relationship between the caretaker and child (i.e., mother, family member, etc.). In cases where the mother was the primary caretaker, data were collected on maternal age, educational level, employment, presence of a husband or male companion in the household, number of live births, and number of deaths among children under four years of age.

5.1 Relationship of Caretakers to Children

The vast majority of the children in these communities were cared for by their mothers (AIN: 96%; control: 95%). The remainder were cared for primarily by their grandmothers (AIN: 3%; control: 4%) while very few were cared for by a sister, aunt, other relative, or non-relative. A similar situation was found in these communities at the time of the baseline survey in 1998. Since such a large majority of the caretakers were the mothers of these children, only data on the characteristics of these mothers are presented in the sections that follow. *(Please refer to Annex G for an overview of caretaker characteristics.)*

5.2 Age and Educational Background of the Mother

Figure 5.1 below presents the age distribution of mothers in AIN and control communities by five-year groups. The mean age of AIN mothers at midterm (26.07 years) is similar to that of mothers in control communities (25.65). These findings are similar to the baseline findings of 26.11 years for AIN and 25.99 years for control.

Figure 5.1: Age Distribution of Mothers Sampled in the Midterm Survey

Age in years

■ <20 ■ 20-<25 □ 25-<30 □ 30-<35 ■ 35-<40 ■ 40-<45 ■ 45+
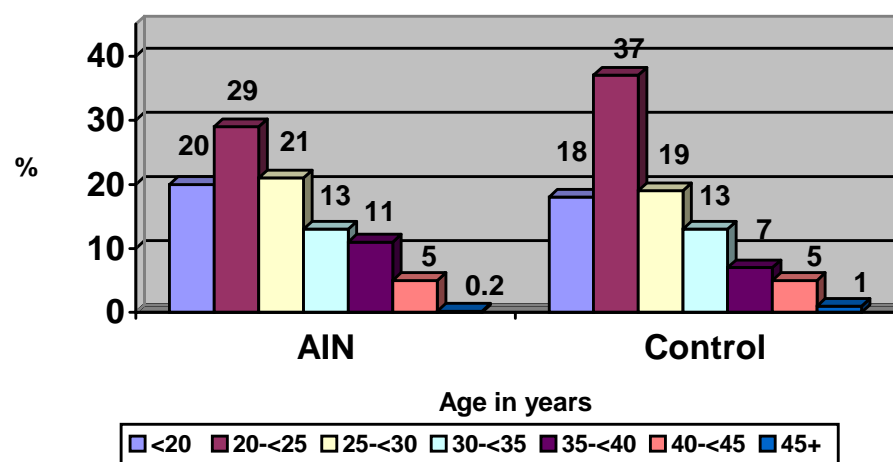
Educational data collected on these women show that 12% of the mothers in AIN and 11% of those in control communities had not completed a single year of formal education. Overall, 83% of AIN mothers ended their formal education at some point during primary school, while 77% stopped at this level in control communities. The peak grade of completion in primary school was 6th grade for both groups. Only 6% of mothers in AIN and 12% of mothers in control communities went on to junior high, secondary, or university studies. The mean of years of school completed was significantly different at midterm. AIN mothers completed 3.9 years on average, compared to 4.7 years in control communities ($p \leq .001$). At baseline, both groups were similar, with AIN at 3.9 years and control at 4.2. Figure 5.2 below presents this education data in more detail.

Figure 5.2: Maternal Educational Levels
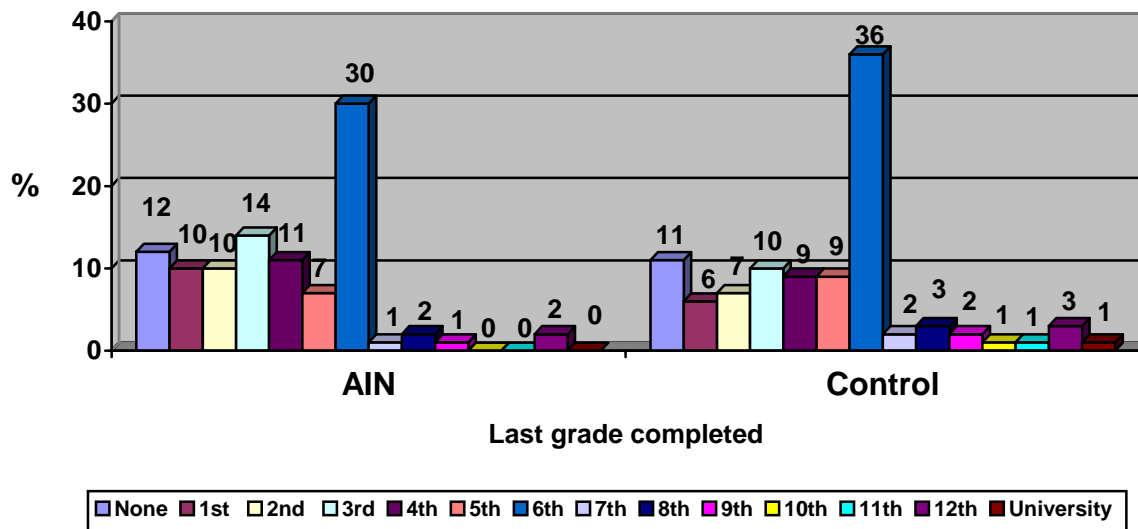
5.3 Live Births and Mortality among Children under Four Years of Age

About 24% of the AIN mothers and 25% of the control mothers reported having had only one live birth, which is consistent with the finding that about one in five mothers surveyed were less than 20 years old at the time of the midterm survey. An additional 20% in AIN and 23% in control communities had two live births, and 14% in AIN and 20% in control communities had three live births. The remaining 43% in AIN and 33% in control communities had had more than three live births. The comparison between these two groups is significantly different at midterm ($p \leq .05$). At midterm, AIN mothers had a higher mean number of children (3.64) than control mothers (3.33). The *subset* of communities from the baseline that is used for comparison to midterm findings also had significantly different mean numbers of children, but the *entire* baseline data set had similar mean numbers.

Figure 5.3: Number of Live Births Reported
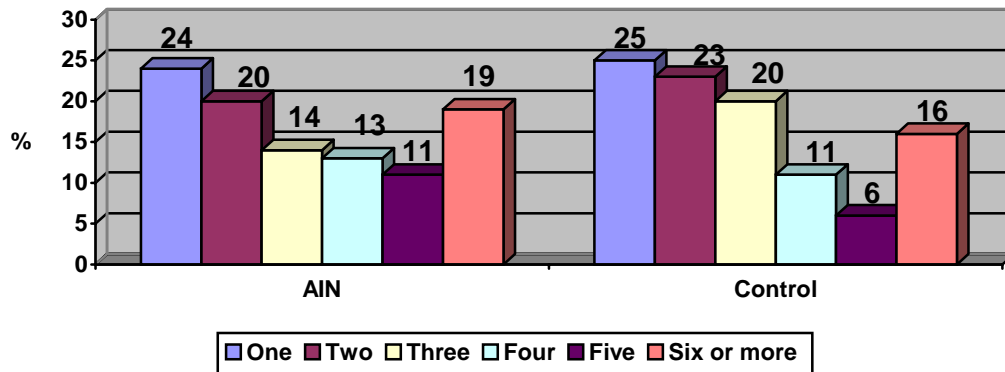
Of the mothers sampled at midterm, 18% in AIN communities reported having had at least one case of a child born alive who subsequently died before reaching four years of age. In the control communities, this percentage was significantly lower at 13% (p ≤ .05). A large majority of the families who had lost a child before the age of four years reported losing only one child in both AIN (76%) and control (82%) communities.

5.4 Mother's Employment and Male Presence in Households

In response to questions concerning whether the mother works for pay, only 15% of the AIN mothers responded that they did at the time of the midterm, compared to 24% of mothers in control communities. While the baseline rate was 19% for both groups at baseline, there was a statistically significant difference at the midterm (p ≤ .001). A significant interaction between group and time (p ≤ .05) emerged as the proportion of AIN mothers working for pay decreased over time while the control proportion increased. In both groups, of those women who worked for pay, two-thirds reported working outside the home. In four out of five households in both groups, a husband, or other male companion habitually lived in the house.

5.5 Discussion of Findings

In both groups studied for this report, mothers were the predominate caretakers of children under two years of age. The midterm survey results showed that AIN mothers were likely to have had more children and to have had less education on average than their counterparts in control communities. AIN mothers were also found to have been less likely to work outside the home than their counterparts in control communities. This factor may contribute to the lower SES levels of the families in AIN communities. These data may indicate disparities between AIN and control communities at midterm, and these potential trends will be further assessed in the final household survey.

AIN mothers at midterm were found to be significantly more likely to have experienced the death of a child before the age of four years. This difference in mortality may be attributable to the lower SES level generally found in AIN communities compared to controls. It is important to note, however, that the question on mortality referred to the entire reproductive history of the woman—not just the two-year period since the community AIN program

began. Furthermore, the sample was not designed to answer this question, and the fact that AIN mothers have had significantly more live births is a potential confounding factor in the analysis of mortality. Thus, no conclusions can be drawn from this data concerning the potential effect of the AIN program on mortality.

6. Delivery and Postpartum Care

6.1 Delivery and Birthweight

Data collected on the location of the delivery showed that 47% of the children in AIN communities and 37% in control communities were delivered by birth attendants (*parteras*). About 46% of the children in AIN communities were born in hospitals or private clinics, compared to 58% in controls. At the time of the midterm, AIN mothers were significantly less likely to have institutionalized births than were control mothers (p ≤ .001). This difference was also significant at the time of the baseline in these communities (p ≤ .05). At baseline, 41% of mothers in AIN communities and 48% in control communities gave birth in hospitals or private clinics.

Between these groups, children in AIN communities were significantly less likely to have been weighed at birth than children in control communities (57% vs. 67%, p ≤ .01), which is likely to be a result of the lower incidence of institutionalized births. A significant difference is also found in baseline data concerning weighing at birth for AIN (52%) compared to control (61%) (p ≤ .05), with both groups increasing significantly over time (p ≤ .01).

Of those children who had been weighed at birth (as reported by their mothers at midterm), 4% of the children in AIN communities and 6% in controls were reported to weigh under 2500 g. (5.5 lbs.) at birth. This difference is not statistically significant. Since less than two-thirds of the children in these communities were weighed at birth, these data on low birthweight should be interpreted with caution.

6.2 Postpartum Home Visits

In the midterm survey, several questions asked about postpartum home visits by health workers and/or AIN *monitoras* to check on the mother's health, the baby's health, or both. Significantly more mothers were visited in AIN communities (36%) than in controls (27%) (p ≤ .01). In both groups, birth attendants (*parteras)* were by far the most common visitors, as shown in Table 6.1. Of the mothers living in AIN communities who received a postpartum visit from any source, 24% reported receiving a visit from the AIN *monitora*. (This was 9% of all mothers in AIN communities).

Table 6.1: Personnel Making Postpartum Home Visits

Type of personnel	AIN †††		Control	
	%	Number of women who received a visit	%	Number of women who received a visit
AIN *monitora*	22.8		0.6	
Birth attendant (*partera*)	71.2		89.6	
Both AIN *monitora and* birth attendant	0.9		0	
Staff from CESAR / CESAMO	2.3	215	5.8	154
Private doctor / nurse	1.4		1.9	
Hospital staff / private clinic	0		0	
Other	1.4		1.9	

†††   p ≤ .001 (based on Pearson Chi-Square test)

For women in AIN communities who received a visit from a *monitora*, 61% reported having received the visit within one week of the delivery. The remaining women were evenly split between the second week (14%), third-fourth week (12%), and after the first month (12%). For women who were visited by a birth attendant (*partera)*, nearly all received the visit in the first week after delivery (AIN: 97%, control: 96%).

For women visited by AIN *monitoras*, the most common activities during the visit were physically checking the child and registering the child in the AIN program (39% each), followed closely by asking the mother to bring the child to the monthly weighing sessions (35%) as seen in Table 6.2. For women visited by birth attendants, the most common activities were a physical examination of the child and of the mother.

Table 6.2: Activities during Postpartum Visit

Activities	AIN				Control	
	Monitora		Birth Attendant		Birth Attendant	
	%	Number of women	%	Number of women	%	Number of women
Made physical exam of the mother	23.5		71.0		71.7	
Made physical exam of the child	39.2		89.7		94.9	
Registered the child in the AIN program	39.2		0		0	
Gave mother a child health card	7.8	51	0	155	0	138
Gave mother a vaccination card for the child	0		0		0	
Asked mother to bring child to monthly AIN weighing sessions	35.3		0.6		0	
Gave referral to a higher level of care	7.8		3.2		0	

Note: These responses are not mutually exclusive.

6.3 Discussion of Findings

The results reported in this chapter show that mothers in AIN communities were significantly less likely to have given birth in an institutionalized setting than mothers in control communities. This finding may be related to the relatively better access of the control communities to the health centers in terms of distance and higher SES. The non-institutionalized birth settings could have contributed to the higher incidence of mortality in children in AIN communities, although the data collected do not differentiate between neonatal and child deaths.

On the other hand, AIN mothers were significantly more likely to have received postpartum home visits than mothers in control communities. At midterm, most of the mothers receiving postpartum visits were receiving them from parteras, with 9% of all AIN mothers reporting a visit from a *monitora*. The AIN program has not emphasized postpartum visits to date, but this will change as the program adds new content on newborn care.

National statistics from surveys conducted in 1991–92, 1996, and 2001 on neonatal mortality show that the rate has remained static at 19 per 1,000 live births. The neonatal mortality rate has remained static despite reductions in mortality of children under five, which decreased from 55 per 1,000 live births in 1991–92, to 48 in 1996, and to 45 in 2001. Thus, neonatal mortality as a *proportion* of all under-five mortality is increasing.[8] These findings argue for the need for early visitations in the first week after delivery.

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[8] Neonatal mortality data for 1991-92 and 1996 are reported in the *Encuesta Nacional de Epidemiologia y Salud Familiar, 1996.* Data for 2001 are preliminary results from 2001 national survey.

7. Vaccinations, Micronutrients, and Deworming

7.1 Vaccinations

Caretakers were asked to show the interviewer the child's vaccination or growth card. Data were then extracted for BCG, DPT, polio, and measles vaccinations. The majority of caretakers in both groups had either the child's vaccination card or growth card, or both; nevertheless, there was a significant difference between groups at midterm (but not at baseline). Caretakers in AIN communities were more likely to show the interviewer a card than caretakers in control communities (AIN: 92%; control: 82%, $p \leq .001$). For the 8% of the AIN caretakers and 18% of control caretakers having neither card at the time of the interview, the interviewers asked the caretakers a series of questions to determine which shots had been administered to the child. The overall coverage of both groups of these children was then calculated on the combined data from cards and recall.

At baseline, when both card and recall data were considered, there were no statistically significant differences found between the two groups. Over time, however, this situation changed. As the midterm data in Table 7.1 show, when both card and recall data were considered, significant differences were found for coverage with DPT3, polio3, measles, and full immunization coverage among all children 12–23 months of age. Children in AIN communities were more likely to have received these vaccinations than children in control communities. A significant difference between groups was also found for BCG coverage; however, in this case, AIN communities were found to have lower rates at midterm than control communities. Interestingly, even though both groups had similar coverage rates at baseline, a significant interaction between group and time was found for BCG such that AIN coverage decreased from 98% to 92%, while control communities increased from 95% to 98%. (*Please refer to Annex H for a complete presentation of baseline vaccination data.*)

When data for the DPT dropout rate are calculated to compare coverage of DPT3 with that of DPT1 for all children vaccinated, the AIN dropout rate appears to have declined slightly from 5% at baseline to 2% at midterm, whereas the rate in control communities has remained stable at around 7%.

To estimate the coverage of specific vaccinations by age 12 months, dates recorded on the cards were assessed. The proportion of children vaccinated by 12 months according to card data was then extrapolated to the entire group of children. These calculations were performed for BCG, DPT, and polio vaccinations, all of which should be received by the child before 12 months of age. Results for these vaccinations are presented in Table 7.1. Measles vaccine is not given to children as part of MMR until they reach 12 months of age, so this vaccination and full immunization[9] are not included in the calculations.

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[9] Full immunization is defined as 1 dose of BCG, 3 doses of DPT, 3 doses of polio, and 1 dose of measles.

Table 7.1: Vaccinations among Children 12–23 Months of Age, by Antigen and by Source of Information, at Midterm

Source of information	AIN Communities										
	Proportion of children 12–23 mo. who received the vaccination listed below:										
	BCG	DPT			Polio			Measles	Fully immunized children	Number of children
		1	2	3	1	2	3			
Data from vaccination card alone	92.2 [††] [§]	98.4	98.4	97.5	98.4	98.4	97.5 [†]	86.0 [†]	80.7	243
Data from recall alone	95.2	62.0	57.2	42.9	57.1	57.1	38.1	52.4	19.0	21
Combined total from either source	92.4 [††] [§]	95.5	95.1 [†]	93.2 [††]	95.1	95.1 [†]	92.8 [††]	83.3 [†]	75.8 [†]	264
Vaccinated by 12 mo. Of age	85.0	93.1	92.7	88.1	92.3	92.3	87.7	N/A	N/A	264

Source of information	Control Communities										
	Proportion of children 12–23 mo. who received the vaccination listed below:										
	BCG	DPT			Polio			Measles	Fully immunized children	Number of children
		1	2	3	1	2	3			
Data from vaccination card alone	98.0	100.0	98.0	94.6	99.5	97.6	93.7	77.6	73.2	205
Data from recall alone	95.5	59.1	54.6	45.5	59.1	54.6	43.2	70.5	31.8	44
Combined total from either source	97.6	92.8	90.4	85.9	92.4	90.0	84.7	76.3	65.9	249
Vaccinated by 12 mo. Of age	93.7	92.3	89.5	83.7	91.9	89.1	82.5	N/A	N/A	249

†   p ≤ .05 (based on Pearson Chi-Square test)
††   p ≤ .01 (based on Pearson Chi-Square test)
§   p ≤ .05 (based on Logistic Regression analysis test)

7.2 Vitamin A and Iron Supplementation

Data was collected on micronutrient supplementation with iron for children four months of age or older and with vitamin A for children six months of age or older. Card data were extracted similarly to the collection of the vaccination data, and for those children who did not have a card at the time of the survey, recall data were collected from the caretakers. The results presented in this section are the combined total of card and recall data.

Of the children four months of age or older, 47% in AIN communities had received some iron supplementation compared to 9% in control communities, a statistically significant difference ($p \leq .001$.) Moreover, since iron supplementation at the time of the baseline was similar in both groups (2% in AIN and 4% in control communities) there was also a statistically significant increase over time in both groups ($p \leq .01$).

Of the children six months of age or older, 80% in AIN communities compared to 65% in controls had received vitamin A supplementation. This difference between groups was found to be statistically significant for midterm data ($p \leq .001$), while for baseline data there was no significant difference. Interestingly, both groups decreased significantly from the baseline supplementation rates of 86% in AIN and 83% in control communities. This decrease revealed a significant interaction between group and time ($p \leq .05$), as AIN communities sustained a 7% decrease over time compared to a 22% decrease in control communities.

7.3 Deworming

The final question in this section sought to ascertain whether children in these communities were receiving deworming medication. This is an important factor affecting the growth of these children since children with high loads of intestinal parasites are not likely to grow as well as other children their age who are not infested with parasites. In AIN communities, 34% of children had received deworming medication at midterm, compared to 30% in control communities. Both of these groups were similar to their baseline levels of 32% and 36%, respectively. The differences at baseline and midterm were not significant.

7.4 Discussion of Findings

Even though the *monitoras* do not directly administer vaccinations, the questions on vaccination coverage were included in the AIN midterm evaluation survey because the monthly weighing sessions provide an opportunity to review immunization cards, to invite the nurse to the community to vaccinate, and/or to refer the child to the health center.

It is important to note that Honduras already has high levels of vaccination coverage; the additional impact of the AIN program is an incremental improvement. The AIN results reported in this chapter, including the improvements in DPT dropout rates, demonstrate that although the national program has achieved good coverage, monthly checking of vaccination

cards enables access to the small proportion of children who are missing from routine services.

Data from cards demonstrated significantly higher coverage rates for polio3 and measles in AIN communities than in controls. When data from vaccination cards and mother's recall were combined, AIN communities were found to have significantly better coverage than control communities for DPT3, polio3, measles, and full immunization. These findings show that although control communities have better access to vaccinations in terms of distance to health centers, higher immunization coverage in AIN communities is being achieved through regular checks of immunization cards and contact with nurses who support the weighing sessions. The one exception to this pattern was BCG coverage, which may be related to BCG being the first vaccination given to very young infants and to the higher prevalence of institutionalized births in control communities. However, it is not clear why this difference would not be made up in AIN communities by the time these children reach their second birthday. It is also not clear why the AIN rate declined from baseline to midterm while the control rate increased, since the proportion of institutional births appeared to be increasing in both groups (as reported in Section 6.1). The barriers to vaccinating a child after the first month with BCG should be explored.

In terms of micronutrient supplementation, the proportion of children under two years who received iron supplementation has increased significantly in AIN communities since the time of the baseline and relative to control communities. These findings demonstrate the AIN program's positive impact, which is achieved by having the *monitoras* review the child's health card and provide a referral to the health center in cases where a nurse is not available at the weighing session to provide the iron supplement.

In terms of vitamin A supplementation, the AIN communities have a significantly higher rate of supplementation at midterm than the control communities. The results for vitamin A supplementation are more difficult to interpret, however, since the rates in both groups have dropped compared to the baseline rates. This decrease may have been related to the availability of vitamin A supplies around the time of the midterm survey.

8. Growth and Development

Survey respondents were asked a series of questions about growth promotion programs, including whether they were participating in one, the location of the program, the content of the program, whether they had received advice at the weighing session, and whether they recognized the counseling cards from the AIN program.

8.1 Knowledge of Signs of Good Growth

Caretakers who believed that their children were growing well were asked to spontaneously report on signs of good growth. Figure 8.1 shows characteristics that caretakers in both AIN and control groups ascribe to good growth. There are significant differences in their knowledge.

In AIN communities, the child *gains weight* was the most common sign mentioned. Caretakers in AIN communities were significantly more likely to mention this sign at midterm than caretakers in control communities ($p \leq .001$). There is a statistically significant difference between the increase over time in AIN communities (from 38% at baseline to 50% at midterm) compared to the decrease in control communities (from 36% to 30%) ($p \leq .001$).

The child is *not sick*, on the other hand, was mentioned significantly less often in AIN (48%) than in control at midterm (56%) ($p \leq .05$). The difference between groups was also statistically significant at baseline ($p \leq .01$), and both groups have increased significantly over their baseline rates of 38% and 49%, respectively ($p \leq .001$).

In both AIN and control communities, caretakers mentioned the child *eats well* as a sign of good growth. There were significant increases in rates in both AIN (from 26% at baseline to 44% at midterm) and control communities (from 24% to 38%) ($p \leq .001$).

In both groups, the rate of caretakers mentioning *sleeps/plays well* as signs of good growth increased significantly over time, with AIN rising from 6% at baseline to 19% at midterm and control from 12% to 20% ($p \leq .001$). The difference between the two groups, which was significant at baseline ($p \leq .01$), was no longer apparent at midterm.

Figure 8.1: Comparison of Caretaker's Knowledge of Signs of Good Growth in AIN and Control Communities from Baseline to Midterm
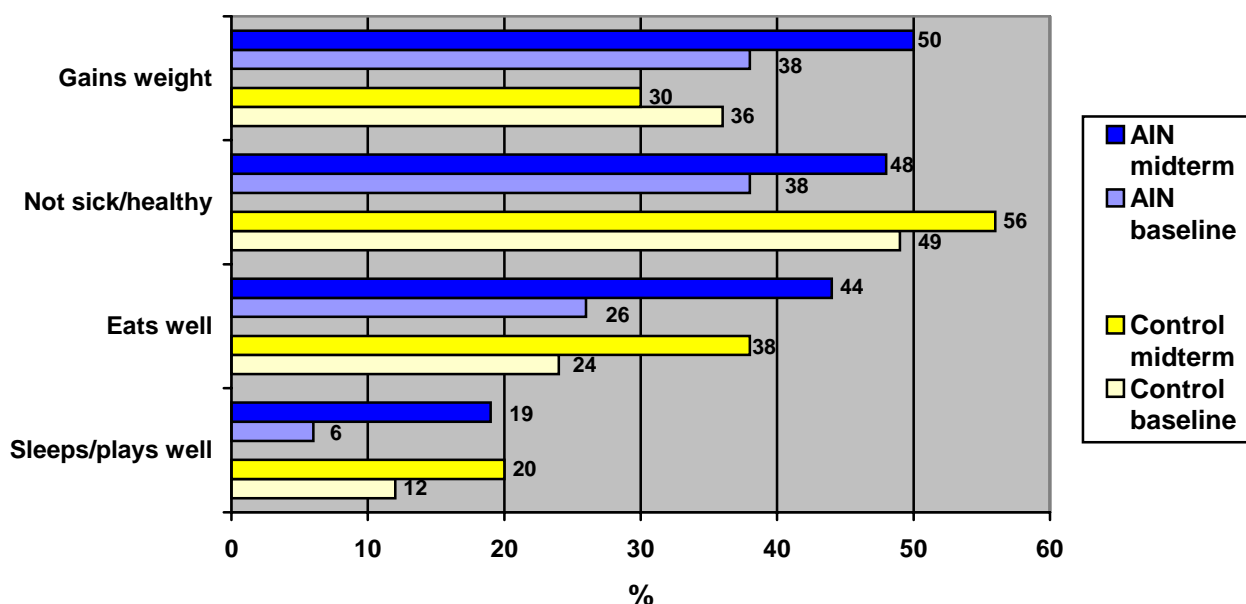
8.2 Knowledge of Signs of Poor Growth

The question on what signs would indicate poor growth was asked of all caretakers regardless of whether their child was growing well or poorly. As depicted in Figure 8.2, the most commonly mentioned sign at midterm in both groups was that the child *is sickly*; results were similar in both groups (AIN: 46%; control: 49%). Also, in both groups, the percentage of caretakers who were aware of the link between illness and poor growth increased significantly over baseline levels ($p \leq .001$).

The second most common sign in both groups was the child *is thin*. AIN caretakers were significantly more likely to mention this sign at midterm than their counterparts in control communities (45% vs. 37%, respectively, $p \leq .01$). This indicates a significant change since the baseline in control communities, with fewer caretakers mentioning this sign at midterm. In AIN communities, the rate has remained similar to the baseline level ($p \leq .05$).

In both groups, caretakers also know that a child who *does not eat well* does not grow well, with the percentage in AIN communities at midterm (40%) doubling since the time of the baseline survey (20%). This midterm rate reveals a statistically significant interaction between group and time ($p \leq .05$) such that the AIN increase over time has outpaced the control rate, which increased from 22% at baseline to 31% at midterm.

In both groups, more than one-fourth of the respondents mentioned the child *is undernourished* as another sign that would indicate poor growth. These rates, however, portrayed a significant decrease over time, with AIN dropping from a baseline level of 40%

to a midterm level of 28% and a corresponding decrease in control communities from 38% to 28% (p ≤ .001).

Very few caretakers in either AIN (7%) or control communities (4%) cited *inadequate weight gain* as a sign that would alert them that their child was not growing well.[10] The response *Lethargic/depressed* was also not common, and both the AIN rate (11%) and the control rate (9%) remained similar to baseline levels.

Figure 8.2: Comparison of Caretaker's Knowledge of Signs of Poor Growth in AIN and Control Communities from Baseline to Midterm
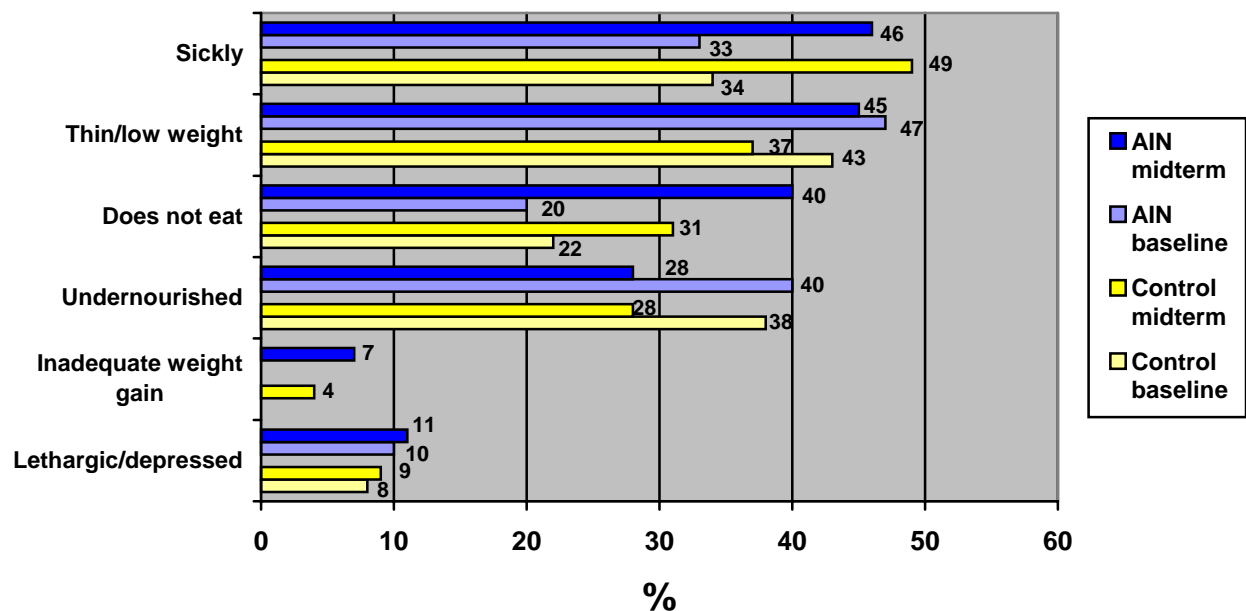
8.3 Participation in Growth Monitoring and Promotion (GMP) Programs

Figure 8.3 shows a significant surge in enrollment of children in growth monitoring and promotion (GMP) programs in AIN communities from baseline (30%) to midterm (92%) (p ≤ .001).

The proportion of current enrollment in GMP was already significantly higher in AIN communities at the time of the baseline (p ≤ .01), and since then enrollment further outpaced control communities, which remained stable at 21% at midterm and 23% at baseline. The cumulative interaction between group and time is statistically significant at p ≤ .001.

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[10] This question was added to the midterm survey questionnaire, so no comparison with baseline knowledge of this sign can be made.

Figure 8.3: Comparison of Current Enrollment of Children in Growth Monitoring and Promotion Programs over Time, by Group
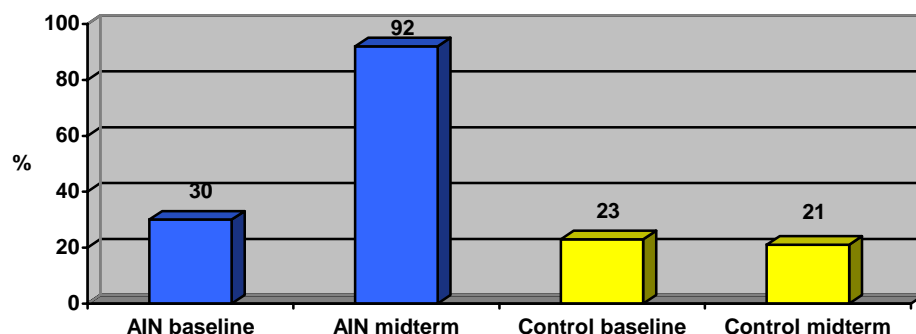
In AIN communities, virtually all caretakers who enrolled their children in GMP did so through the community program run by AIN *monitoras* (99.8%), as shown in Table 8.1. In control communities, of those who reported participation in a GMP program, 47% reported enrolling their children through a health center. The remainder reported some other source such as a health volunteer, private provider (doctor, clinic, dispensary, hospital), CARE, or the Honduran Social Security Institute (IHSS). These differences in the source of GMP between groups over time were statistically significant as were the differences between groups at baseline and midterm.

Table 8.1: Source of Growth Monitoring and Promotion Program

	AIN §§§				Control			
	Baseline ††		Midterm †††		Baseline		Midterm	
	%	Number of Children	%	Number of Children	%	Number of Children	%	Number of Children
AIN *monitora*	14.0		99.8		1.9		9.1	
CESAR/CESAMO	74.8	143	0.2	547	83.8	105	47.1	121
Other	11.2		0		14.3		43.8	

†† p ≤ .01 (based on Pearson Chi-Square test)
††† p ≤ .001 (based on Pearson Chi-Square test)
§§§ p ≤ .001 (based on Logistic Regression analysis test)

For those children who were enrolled in GMP at midterm, the caretakers were asked what age the child had been when first enrolled. In both AIN and control communities, more than two-thirds of the caretakers who responded to this question stated that they had enrolled the child before the age of three months (AIN: 69%; control: 72%). By the time the children reached six months of age, 84% in both groups were enrolled (see Table 8.2).

Table 8.2: Age of Child at First Growth Monitoring Session

Age in months	AIN %	AIN Number of children	Control %	Control Number of children
< 1 mo	27.8		27.3	
1–< 3 mo	41.1		44.6	
3–< 6 mo	15.0		12.4	
6–< 9 mo	6.9		8.3	
9–< 12 mo	3.7	547	0.8	121
12–< 15 mo	1.8		3.3	
15–< 18 mo	0.9		0.8	
18–< 24 mo	0.7		0	
Doesn't know / remember	2.0		2.5	

In order to gauge their level of participation, caretakers who reported having their children enrolled in GMP at the time of the survey were then asked how many times they had attended a weighing session in the past three months. In AIN communities, 70% of caretakers of children three months of age or older reported that they had attended three or more times in the past three months, more than doubling the rate of 30% found at baseline—a significant increase (p <.001). The control communities' rate, in contrast, remained similar from baseline (38%) to midterm (44%) as shown in Table 8.3. These results show that AIN caretakers are significantly more likely to attend the GMP sessions on a monthly basis than control caretakers (p ≤ .001).

Table 8.3: Attendance at Growth Monitoring in Last 3 Months for Children ≥ 3 Months of Age

Number of times attended	AIN Baseline %	AIN Baseline Number of Women	AIN Midterm ††† %	AIN Midterm Number of Women	Control Baseline %	Control Baseline Number of Women	Control Midterm %	Control Midterm Number of Women
None	1.7		2.0		4.2		5.6	
One	37.5		9.1		29.2		19.6	
Two	30.8		17.7		29.2		27.1	
Three or more	30.0	120	70.0	503	37.5	96	43.9	107
Doesn't know / remember			1.2				3.7	

Note: Responses not listed on the baseline questionnaire are shaded.
††† p ≤ .001 (based on Pearson Chi-Square test)

Caretakers who had enrolled their children in a growth monitoring and promotion program were then asked to recall the activities that took place at the most recent growth monitoring session they had attended. After their initial spontaneous responses, they were prompted with a series of possible activities. The results that are reported in Figure 8.4 consider spontaneous

and prompted answers together. Statistical testing for changes over time was conducted on the combined totals of spontaneous and prompted responses versus caretakers who did not mention an activity at all. *(For a detailed presentation that distinguishes the spontaneous from the prompted responses and that provides levels of statistical significance, please refer to Annex I.)*

The main activity at the monthly growth monitoring sessions is weighing the children. At midterm, 99.7% of the caretakers in AIN communities compared to 95% in control communities recalled this activity as part of the most recent session they had attended. These rates changed since baseline, and the interaction between the group and the direction of change was statistically significant; AIN increased over time from 97% to virtually 100%, while control communities decreased from 98% to 95%.

At midterm, 93% of the AIN caretakers reported that they had been informed of the child's weight. This rate was significantly higher than the control result at midterm (82%) and the AIN baseline rate (80%) (p <.001). Furthermore, 85% of the caretakers in AIN communities reported that the *monitora* had told them whether the child's attained weight was adequate in comparison to the expected weight of a child that age. This was a significant increase over the baseline AIN rate of 64% (p ≤ .001). In control communities, 79% were informed whether the child's attained weight was adequate.

A key difference between AIN and other GMP programs is the consistent counseling offered based on the child's growth status. For example, the proportion of caretakers in AIN communities who recalled receiving messages on breastfeeding (69%) and good feeding practices (80%) were significantly higher than in control communities (where the rates were 44% and 51%, respectively).

Figure 8.4: Comparison of Regular Activities in Growth Monitoring and Promotion Programs in AIN and Control Communities at Midterm and Baseline
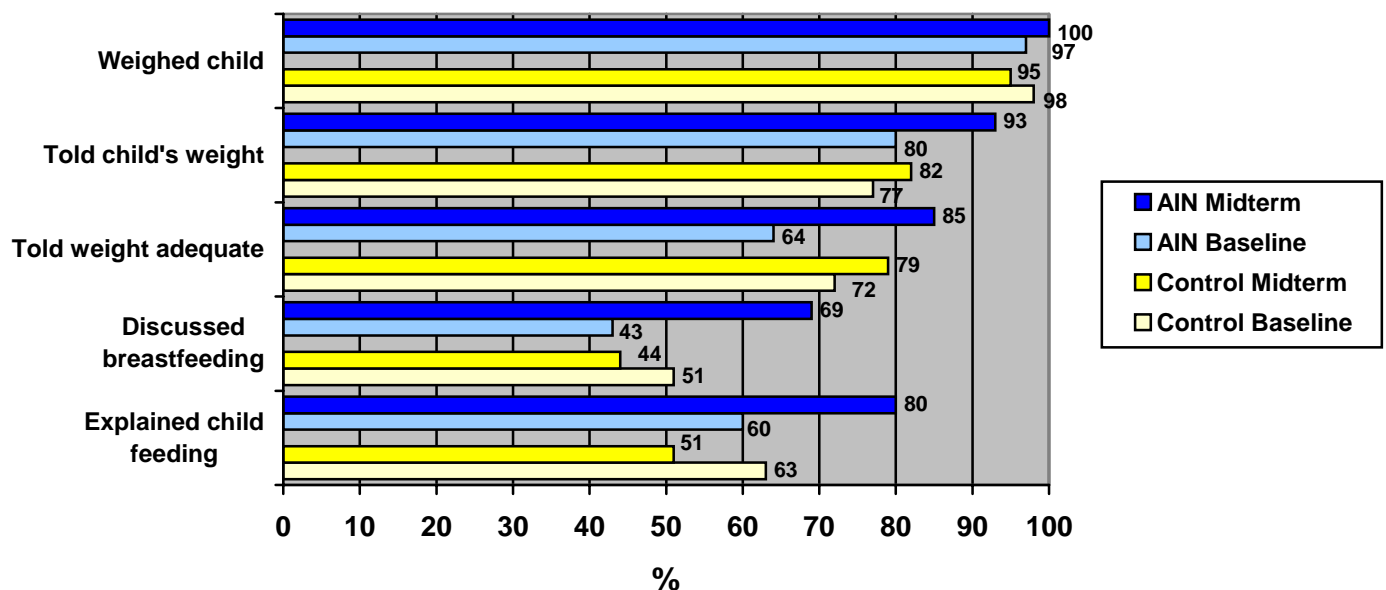
In addition to counseling on child feeding, the AIN program also provides counseling on caring for children with diarrhea and respiratory infections and on hygiene. Receipt of counseling on care during illness was significantly higher in AIN communities (63%) than in control communities (35%) ($p \le .001$). This was also true of counseling on hygiene (AIN: 66%; control: 48%) ($p \le .001$). These midterm rates in AIN communities also showed considerable improvement over baseline levels as shown in Figure 8.5. Overall, for each of these counseling messages, the interaction between group and time is reflected in significant increases in AIN communities' rates compared to decreasing rates in control communities ($p \le .01$).

For the midterm survey, questions were added on micronutrient supplementation, vaccinations, and family planning. Again, the same pattern was found in which AIN communities had significantly higher rates for counseling on iron supplementation (61%) and vitamin A supplementation (59%) than control communities (31% for each micronutrient). Furthermore, discussions of family planning and vaccinations were significantly more common in the AIN program than in the growth monitoring and promotion programs in control communities (55% and 67% compared to 41% and 58%, respectively).

Figure 8.5: Comparison of Situation-Specific Activities in Growth Monitoring and Promotion Programs in AIN and Control Communities at Midterm and Baseline
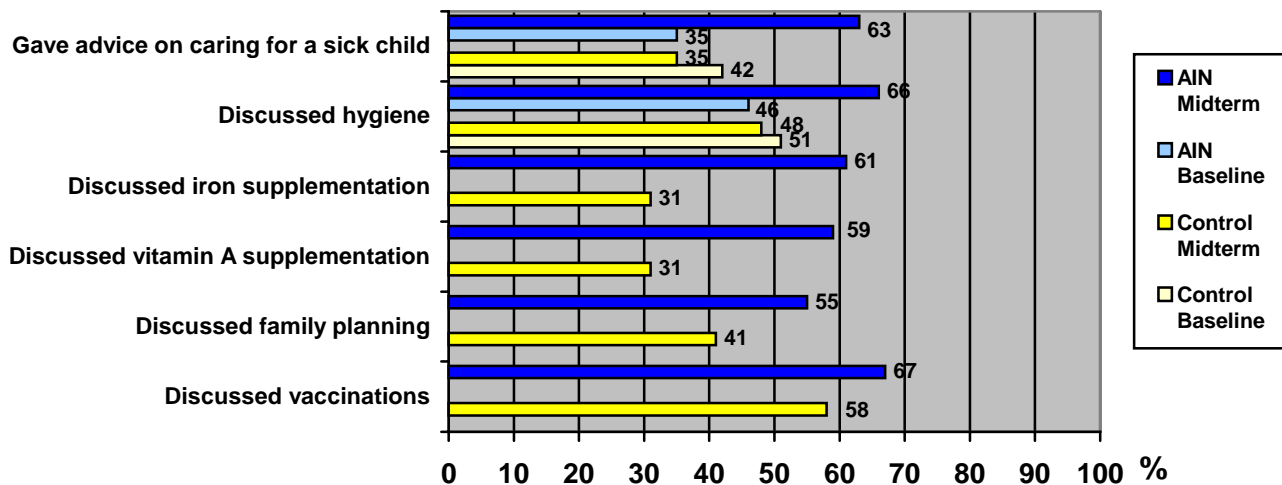
8.4 Home Visits by Personnel from the GMP Programs

In the AIN program, *monitoras* conduct home visits to families with new babies and invite them to participate in the monthly weighing sessions. *Monitoras* also make home visits to caretakers of children who miss the monthly sessions and to caretakers who have a child who is failing to grow or who is sick and in need of additional assistance. Thus, for the midterm survey, questions were added to collect data on the proportion of caretakers participating in GMP who had received a home visit, the frequency of visits, the caretaker's understanding of the reasons for the visit, and the activities during the visit. The results of this analysis showed that significantly more AIN caretakers had received a visit (27%) than caretakers in control

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communities (4%) (p ≤ .001). Since there were so few caretakers in control communities reporting a home visit, the rest of this section focuses exclusively on AIN caretakers.

Of the caretakers who had ever received a visit in AIN communities, 31% had only received a home visit once. Another 36% stated that they had received visits from time to time and 26% reported receiving one visit almost every month. Seven percent reported receiving several visits per month (Figure 8.6).

Figure 8.6: Frequency of Home Visits in AIN Communities at Midterm
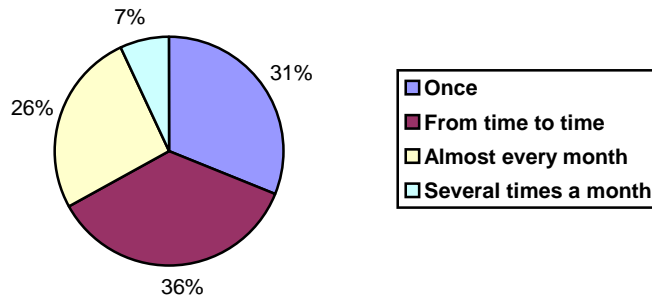
Thirty-seven percent of the caretakers who reported having received a home visit had received it within the month before the survey. An additional 37% received a visit within one to two months of the survey. The remaining 26% had received their visit more than two months prior to the survey. These caretakers were then asked why they had received a home visit. The reason most frequently mentioned for these home visits was that the child had missed the monthly weighing session (42%). Sixteen percent cited inadequate growth of the child, and 10% cited checking the child's health as the reason for the visit. For 14% of the respondents, the home visit was to check on a newborn (Figure 8.7).

Figure 8.7: Reasons for Home Visits in AIN Communities at Midterm
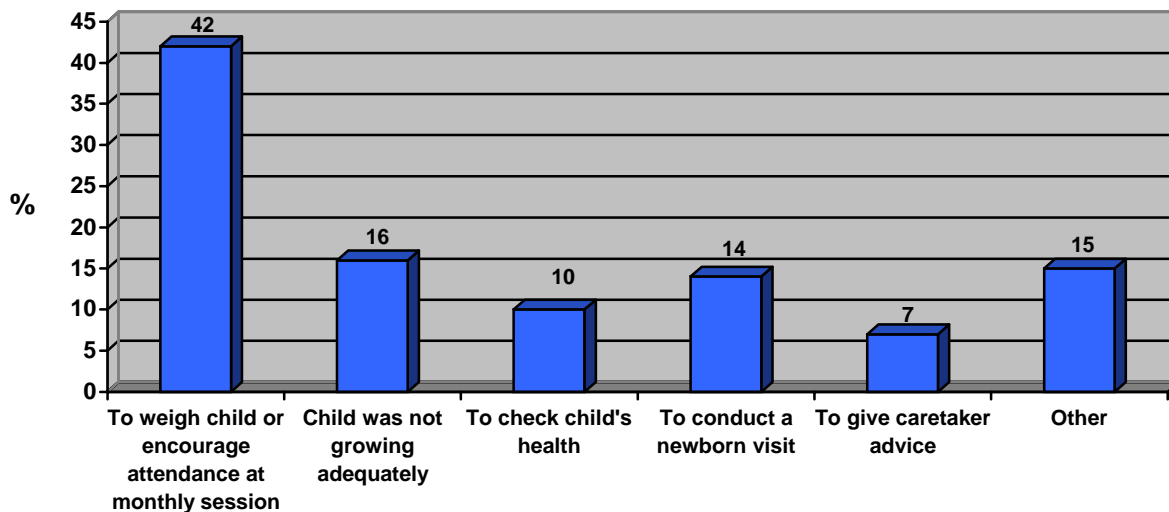
Note: Responses listed above are not mutually exclusive.

8.5 Growth Card Data for Children Participating in GMP Programs

The next series of survey questions collected data on the plotting of weights, growth trend lines, and the caretakers' understanding of the graph in the growth cards of children participating in GMP programs. Overall, at midterm approximately 46% of all caretakers were able to show the interviewer a growth card for the child, but there was a significant difference between the two groups (AIN: 79%; control: 13%) (p ≤ .001). *(Annex J contains a sample of the AIN growth card.)*

For caretakers with child health cards on which the growth curve had been plotted, significantly fewer children in AIN communities (70%) had their first weight plotted on their growth card before they completed three months of age than in control communities (82%), as shown in Table 8.4.

Table 8.4: Age of First Weight Marked on Child Health Card

Age of the child in months	AIN				Control			
	Baseline		Midterm ††		Baseline		Midterm	
	%	Number of child health cards	%	Number of child health cards	%	Number of child health cards	%	Number of child health cards
< 1 months	32.7		29.3		39.5		55.6	
1–< 3 months	28.6		41.0		28.4		26.4	
3–< 6 months	12.2		14.5		13.6		9.7	
6–< 9 months	11.2		6.0		4.9		4.2	
9–< 12 months	6.1	98	4.7	468	3.7	81	0	72
12–< 15 months	6.1		2.1		2.5		1.4	
15–< 18 months	1.0		1.1		2.5		0	
> 18 months	2.0		1.3		4.9		2.8	

†† p ≤ .01 (based on Pearson Chi-Square test)

Growth card data were analyzed to ascertain how many children had more than one weight marked and to assess the graphing skills of the program staff. Significantly more children with growth cards in AIN communities (91%) than in controls (68%) had at least two weights marked on the card at midterm. For AIN communities, this was a significant increase over the 59% finding at baseline (p ≤ .001). Control communities, in contrast, remained similar to their baseline (64%) (p ≤ .001).

For the cards with at least two weights marked, the survey teams checked whether a line was drawn connecting the weights with an interval of one to two months. (Pursuant to the program guidelines, if there is more than a two-month gap between weights, the trendline is not drawn.) At midterm, 94% of AIN cards with weights marked with a one- to two-month interval had the growth trend marked on them. This was significantly higher than both the 71% rate found in AIN communities at baseline and the 78% rate found at midterm in control communities.

The interviewers then judged whether the trend was interpreted correctly in blue ink (signifying adequate growth) or red ink (signifying inadequate growth). For AIN communities, 89% of the cards with at least two weights plotted in a one- to two-month interval were correctly interpreted. This was similar to the baseline rate of 86%; although, as Table 8.5 shows, this rate is based on considerably more children participating in GMP at midterm than at baseline. In control communities, in contrast, there appeared to be a decrease in the percentage of cards that were correctly marked from 86% at the time of the baseline to 74% at the midterm. Although the AIN rate did not change significantly over time, it was significantly higher than the control rate at midterm so overall a significant interaction was found between group and time.

Table 8.5: Accuracy of Growth Card Plotting for Children with at least 2 Weights Marked on Their Growth Cards

	AIN				Control			
	Baseline		**Midterm**		**Baseline**		**Midterm**	
	%	**Number of children**	**%**	**Number of children**	**%**	**Number of children**	**%**	**Number of children**
Children with 2 or more weights marked on card [§§§]	58.7	104	90.8 [†††]	468	64.4	87	68.1	72
Of them, how many have weights linked with an interval of 1–2 months [§§]	70.5	61	93.6 [†††]	425	76.8	56	77.6	49
Of those with a 1- to 2-month interval, how many have the tendency *correctly* marked with red or blue? [§§]	86.0	43	88.9 [††]	398	86.0	43	73.7	38

††   p ≤ .01 (based on Pearson Chi-Square test)
†††   p ≤ .001 (based on Pearson Chi-Square test)
§§   p ≤ .01 (based on Logistic Regression analysis test)
§§§   p ≤ .001 (based on Logistic Regression analysis test)

Using the growth card, the interviewers then asked the caretakers to explain the child's growth. In AIN communities, 62% of the caretakers were able to clearly explain instances of adequate or poor growth shown on the child's health card, a significantly better result than either the AIN baseline level of 33% (p ≤ .01) or the midterm level of 31% (p ≤ .001) in control communities.

Sixty percent of the children in AIN communities with a growth card showing at least two weights were found to have experienced at least one episode of faltering growth. The age of the child at the time of the most recent episode of growth faltering is displayed in Figure 8.8

below.[11] From this graph it is clear that there is a peak in growth faltering at 9–11 months. Eighty percent of the caretakers of children with faltering growth reported that they had discussed possible causes with the AIN *monitoras*. For the vast majority of these caretakers (84%), the cause discussed was an illness.

Figure 8.8: Age of Children in AIN Communities at Time of Most Recent Episode of Faltering Growth at Midterm
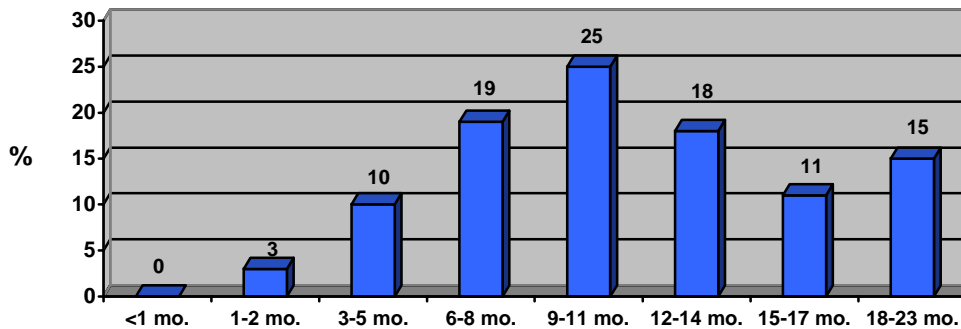
8.6 Counseling for Children Participating in a GMP Program

The next series of survey questions concerned inadequate growth and the advice that the caretaker had received. For children with at least one instance of faltering growth *marked on their cards*, caretakers were asked if they had received any advice. AIN caretakers were found to be significantly more likely to have received advice (81%) than their counterparts in control communities (57%) (p = .01).

Caretakers *without a card* (or with a card with no growth monitoring data marked on it) were asked whether anyone had ever told them that the child was not growing adequately or was malnourished. Sixteen percent of AIN caretakers with no card (21 respondents) and 10% of controls (51 respondents) recalled receiving such a message. The source of this information was most frequently an AIN *monitora* or a nurse in the AIN communities and a nurse or doctor in the control communities. Caretakers were then asked whether they had received any advice related to this situation. Eighty-six percent of the AIN caretakers (18 respondents) and 75% of the control caretakers (38 respondents) responded affirmatively.

Caretakers who were able to show the interviewer growth cards and those without cards were asked the same questions on the advice that they had received in response to growth faltering. Since the sample size of the children without cards was very small, data on children with and without cards were analyzed together. The results demonstrate that when children with and without growth cards were considered together at midterm, caretakers in AIN were significantly more likely to receive counseling for faltering growth episodes than their

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[11] Data from control communities on children with an episode of faltering growth are limited to 21 of the 54 children with at least two weights marked on their growth cards. This sample is too small to permit further analysis. Baseline data are also based on a small sample size, with 21 children in AIN and 23 in control communities. Therefore, this analysis is limited to AIN children at midterm.

counterparts in control communities (p ≤ .05). Furthermore, both groups demonstrated significant increases over baseline levels, with AIN increasing from 53% at baseline to 81% at midterm while control increased from 51% to 69% (p ≤ .001).

The analysis of the type of advice received is limited to the AIN communities at midterm since the sample size for control is small. Figure 8.9 shows that the most common advice received was to give more food than usual (53%). Advice about continuing to give breastmilk, continuing to give breastmilk and other foods, giving food more frequently, and serving children *thick soup* were all mentioned by about one-fourth of these caretakers. Most of the advice received was focused on feeding practices, although some caretakers also mentioned advice such as giving litrosol or other liquids and referral for sick children.

Figure 8.9: Advice Caretakers Received in AIN Communities at Midterm
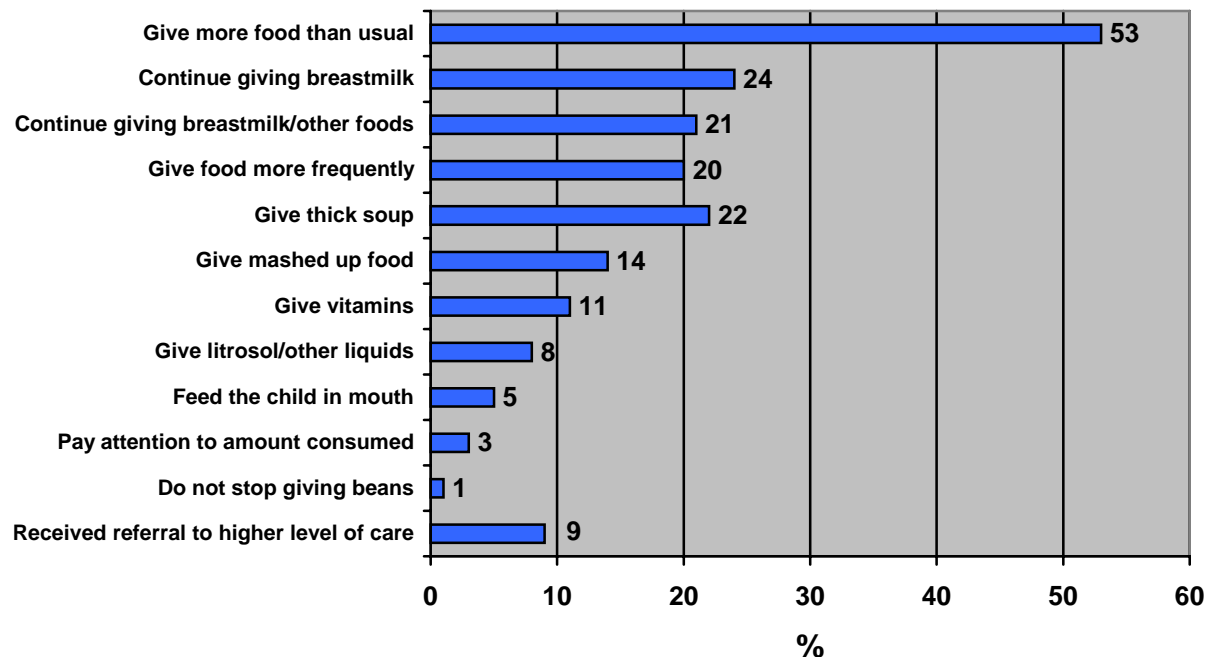
Note: Responses are not mutually exclusive.

8.7 Counseling Cards

One of the key job aids developed in the AIN program is a set of 20 laminated counseling cards. These cards cover a variety of topics such as: establishing breastfeeding for children 0–7 days old; managing adequate and inadequate growth with or without breastfeeding for children 0–2 and 3–5 months; managing adequate or inadequate growth with proper feeding for children 6–8, 9–11, 12–17, or 18–23 months; managing acute respiratory infections for children 0–2 months and 2 months to 5 years; and managing diarrhea, hygiene, and preparation and use of litrosol. *(Please refer to Annex K for a sample of one of these cards.)* The survey sought to examine the extent to which these cards were used by AIN *monitoras*

and staff at CESAR/CESAMO health centers as a tool in the counseling sessions that follow monthly weighing. Caretakers were asked if they had seen these cards; if so, caretakers were asked where they had seen the cards and how often they had seen the cards.

Table 8.6 demonstrates that the cards were recognized by almost two-thirds of the caretakers in AIN communities, most of whom had seen these cards at an AIN growth session. Relatively few caretakers had seen them at a CESAR or CESAMO. In control communities, in comparison, less than one-third of the caretakers had seen these cards, and in nearly all cases caretakers had seen them in a CESAR or CESAMO. These differences between the two groups—both in recognition of the cards and in location where they had been seen—were significant.

Table 8.6: Recognition of AIN Counseling Cards and Location Where Seen at Midterm

Recognition of the counseling cards	AIN		Control	
	%	**Number of women**	**%**	**Number of women**
Have seen them	63.6 †††		30.9	
Have never seen them	36.4 †††	596	69.1	572
Locations where the counseling cards were seen, for those who reported seeing them:				
Saw them at CESAR / CESAMO	18.5 †††		91.5	
Saw them with AIN *monitora*	79.7 †††	379	2.8	177
Saw them elsewhere	2.6 †		6.2	

Note: Responses are not mutually exclusive.
†   p ≤ .05 (based on Pearson Chi-Square test)
†††   p ≤ .001 (based on Pearson Chi-Square test)

In terms of the frequency with which they had seen these cards, 63% of the caretakers in AIN communities who had seen the cards at weighing sessions run by *monitoras* reported seeing them monthly, 19% had seen them from time to time, and 17% had only seen them once. In control communities, caretakers who had seen the cards at a CESAR or CESAMO reported seeing them much less frequently, with four out of five caretakers having seen them only from time to time.

8.8 Discussion of Findings

The surge in enrollment of children in growth monitoring and promotion programs in AIN communities— from 30% at baseline to 92% at midterm—is impressive. This increase is consistent with the large proportion of caretakers who are aware of the AIN program in their community and who participate in it. The younger a child is enrolled, the greater the impact on good health and nutrition the program can achieve. Enrollment is taking place at an early age, although not as early as is desired. The program would expect at least 75% of the children to be enrolled by three months of age, compared to the midterm finding of 69% in AIN communities.

At midterm, the proportion of children with cards who had their first weight marked on their growth card before they completed three months of age was significantly lower in AIN communities than in controls. Although a smaller proportion of AIN children participated in GMP by the age of three months, it is important to remember that the comparison children in control communities represented the select few who participated in any GMP program.

Regarding the intensity of participation, which was measured as the number of times a child had participated in the program in the three months prior to the survey, 70% of children three months of age or older in AIN communities had attended three weighing sessions in the three months prior to the survey. This falls short of the goal set by the program of 100% of children being weighed monthly. Children who did not attend a monthly session should have received a home visit by the AIN *monitoras*, but the survey did not find them to be more likely to have received one than children who had attended all three sessions. The program strives to achieve at least 80–85% participation in monthly weighing sessions, with only 15–20% needing home visits, to reach the goal of 95–100% monthly participation rate.

When asked about the activities during the most recent weighing session, it is not surprising that both groups of caretakers—AIN in the communities and controls in the health centers—almost universally mentioned the child being weighed. Nevertheless, it is noteworthy that a higher proportion of AIN caretakers had been informed of the child's weight and whether this weight was adequate. AIN caretakers were also more likely to mention the counseling messages, and the rates of exposure for each message were found to be increasing for AIN caretakers while they were declining for control caretakers. This interaction between the *monitoras* and the caretakers in discussing the "results" of the weighing session and in providing tailored counseling is more intensive in AIN communities. This reflects the fact that the community program provides a more comprehensive approach to child health and nutrition than the growth monitoring and promotion at health centers accessed by control communities. The process in the growth promotion sessions revealed an advantage to the community-based program over the traditional health center-based approach, which focuses on weighing with less promotion of growth through counseling.

AIN caretakers were clearly better able to interpret their children's growth cards than caretakers in control communities. AIN caretakers were twice as likely to recognize the AIN counseling cards as caretakers in control communities; and there were significant increases over baseline in the proportion of these caretakers who knew key programmatic messages linking health, weight gain, and eating well to good growth.

9. Diarrhea

Caretakers were asked whether the child had had an episode of diarrhea or an acute respiratory infection (ARI) within the two weeks preceding the survey. For those children who had been ill, caretakers were asked about care-seeking, care-giving, and feeding practices related to that episode of illness. Caretakers were also asked about their perceptions concerning the danger signs for these illnesses. This chapter will present data collected on diarrheal episodes. It will be followed by a chapter covering ARI episodes and a brief analysis of children found to have had both conditions in this two-week period.

9.1 Prevalence of Diarrhea

For those children who had an episode of diarrhea in the two weeks preceding the survey, their caretakers were asked about the duration of the episode and symptoms of dehydration and blood in the stools. As shown in Table 9.1, the prevalence of diarrhea found in the midterm survey is similar between AIN (32%) and control (31%). In both groups, the prevalence of diarrhea appears to have decreased since the baseline; however these results should be interpreted with caution given the difference in the timing of the baseline survey in May-July compared to the midterm data collection, which took place in September-October.

Table 9.1: Prevalence of Diarrhea in Children, by Group and over Time

| Type of diarrhea | AIN | | | | Control | | | | Total | | | |
| | Baseline | | Midterm | | Baseline | | Midterm | | Baseline | | Midterm | |
	%	Number of children	%	Number of children	%	Number of children	%	Number of children	%	Number of children	%	Number of children
Children with diarrhea as proportion of all children in sample	38.2	474	31.9	596	35.6	464	30.8	572	36.9	938	31.3	1168

When these prevalence data are plotted by the age of the child (Table 9.2), it is clear that the prevalence of diarrhea among children 0–3 months of age appears to be lower in both AIN and control groups than in older infants and children.

Table 9.2: Prevalence of Diarrhea in Children, by Age Group, at Midterm

Age of children having diarrhea in last 2 weeks	AIN		Control		Total	
	%	Number of children in this age group	%	Number of children in this age group	%	Number of children in this age group
0 – 3 months	9.0	100	12.0	92	10.4	192
4 – 5 months	32.0	50	28.8	52	30.4	102
6 – 8 months	35.6	73	35.2	91	35.4	164
9 –11 months	38.5	109	35.2	88	37.1	197
12 – 23 months	36.7	264	34.9	249	35.9	513

The prevalence of bloody diarrhea is similar in AIN (7%) and control communities (6%) at midterm, as seen in Table 9.3. These rates are similar to the baseline rates in AIN (8%) and control communities (7%).

Data were also analyzed for persistent diarrhea, which is defined as diarrhea lasting more than 14 days. Results were similar between groups and over time, with 4% in AIN and 3% in control communities at midterm compared to the baseline rates of 8% and 6%. This slight decrease over time was not statistically significant.

Table 9.3: Prevalence of Bloody and Persistent Diarrhea, by Group and Time

Proportion of all children with diarrhea who have the following:	AIN				Control				Total			
	Baseline		Midterm		Baseline		Midterm		Baseline		Midterm	
	%	Number of children	%	Number of children	%	Number of children	%	Number of children	%	Number of children	%	Number of children
Bloody diarrhea	8.3	181	6.8	190	7.3	165	5.7	176	7.8	346	6.3	366
Persistent diarrhea (>14 days)	7.7		4.2		5.5		3.4		6.6		3.8	

Caretakers reported similar rates of signs of dehydration, such as wrinkled or dry skin, lethargy or unconsciousness, excessive thirst, sunken eyes, and irritability. The prevalence of these signs in children with diarrhea as reported by caretakers is shown in Figure 9.1.

Figure 9.1: Signs of Dehydration in Children with Diarrhea at Midterm

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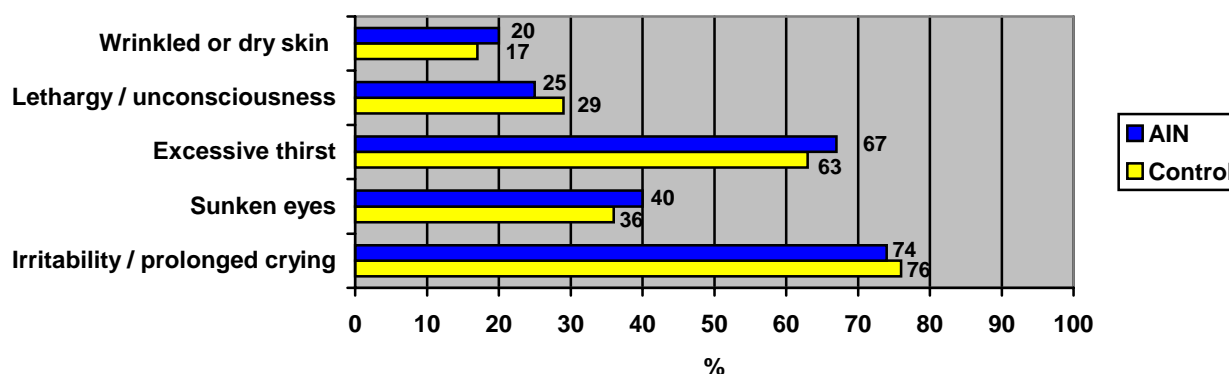
9.2 Care-Seeking for Diarrhea

The caretakers who reported that their children had diarrhea in the two weeks prior to the survey were asked whether they had sought care from any source (including friends and family) for this illness. Thirty-eight percent of AIN caretakers and 31% of controls reported that they had sought care or advice from someone, usually within three days of the onset of the illness. These caretakers were then asked what source(s) of care they had consulted and in what order. Follow-up questions were asked to complete the picture of the caretakers who consulted an AIN *monitora* or a health provider at any point in time for this episode of diarrhea. Out of all the diarrhea cases reported, 34% of caretakers of children with diarrhea in AIN communities and 25% in controls reported that they had sought care from either a *monitora* or a professional health provider[12] for this illness (Table 9.4).

Table 9.4: Care-Seeking for Diarrhea at Midterm

Care-seeking among all cases of diarrhea	AIN		Control	
	%	Number of children with diarrhea	%	Number of children with diarrhea
Did not seek care	62.1		68.8	
Sought care from any source	37.9	190	31.3	176
Sought care from either a *monitora* or a professional health provider	34.2		25.0	
Of those who sought care from *any* source, proportion who sought it from an AIN *monitora* at any point	41.7			
Of those who sought care from *any* source, proportion who sought it from a professional health provider at any point	69.4	72	80.0	55

This section will focus on the results relating to the *first source of care consulted. (Detailed results on the first three sources of care consulted and the summaries of consultations of* monitoras *and health providers are presented in Annex L.)*

Data collected in AIN communities showed that the first source consulted was most frequently the AIN *monitora* (33%). Overall, 42% of the caretakers who sought care reported consulting the AIN *monitora* at some point in time for this illness. After the AIN *monitora*, the next most common source for the first consultation in AIN communities was a CESAR (24%). Eight percent of caretakers consulted a CESAMO as the first source of care, and 10% consulted a private doctor or clinic or a hospital. Pharmacies were consulted by 3% of caretakers in AIN, and the same proportion consulted litrosol distributors. Traditional healers were consulted by 1%. Overall in AIN communities, 69% of those caretakers who sought care from any source consulted at least one type of professional health provider.

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[12] For the purposes of this analysis, a *professional health provider* was defined as CESAR, CESAMO, doctor, clinic, hospital, or pharmacy. The category of *pharmacy* was included since the pharmacy is expected to be a common source of litrosol. (Note: It is recognized that the pharmacy can be a source of incorrect treatment, such as unnecessary antidiarrheal medications.)

In control communities, the most common source for the first consultation was a CESAR (33%). In fact, the data show that if a CESAR was consulted at all by a caretaker, it was almost always consulted first. CESAMOs were consulted by 5% of the caretakers in these communities as the first source of care, while 18% consulted a private doctor or clinic and 2% consulted a hospital. Pharmacies were consulted by 9% of the caretakers in control communities, and traditional healers were consulted by 6%. Overall, 80% of caretakers in control communities who sought care from any source consulted at least one type of professional health provider for this episode of illness.

Figure 9.2 compares the patterns of the first source consulted between AIN and control communities. For this summary presentation, CESAR and CESAMO consultations are combined.

Figure 9.2: First Source of Care Consulted for Diarrhea at Midterm

AIN   Control
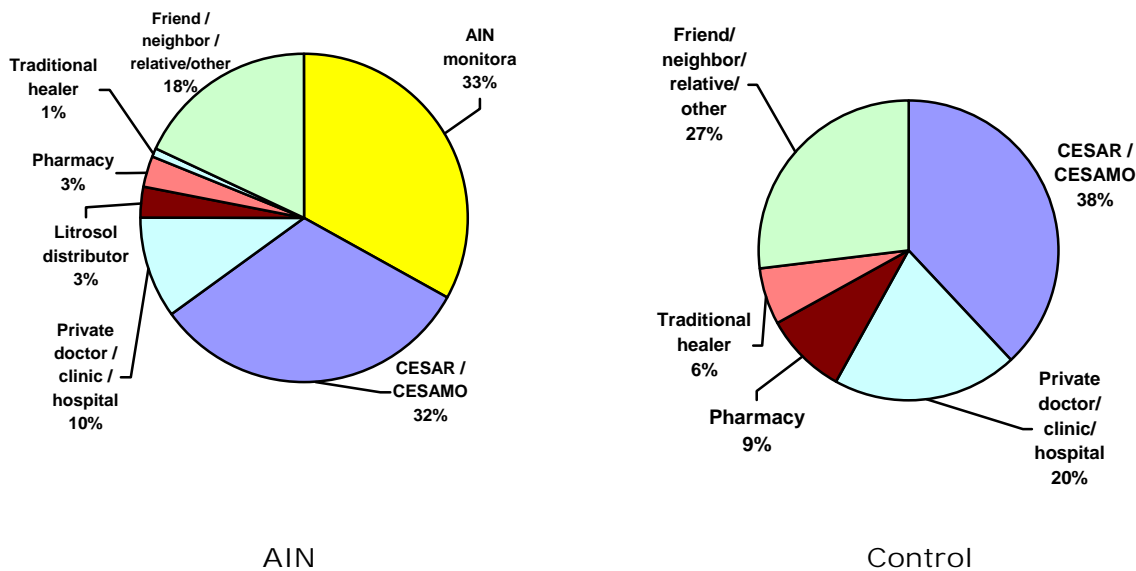
When asked what type of advice they had received from the *monitora*, 80% of the caretakers in AIN communities reported that the *monitora* had recommended giving *litrosol*[13] to prevent dehydration. Other advice from *monitoras* included giving more liquids (17%), continuing to breastfeed (17%), and continuing feeding (10%). Ten percent of these caretakers reported having received a referral to a higher level of care from the *monitora*.

For caretakers in AIN communities who consulted a CESAR, CESAMO, or other professional health provider, litrosol was recommended to 58% of caretakers. This was less frequent than among AIN *monitoras* or among providers in control communities, who recommended litrosol to 64%. Fifteen percent of professional health providers serving AIN communities advised caretakers to give more liquids, compared to 8% in control communities. In contrast, 6% of health professionals serving AIN communities mentioned

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[13] Litrosol packets are the locally available ORS salts recommended by the Ministry of Health.

continuing to feed the child, compared to 13% in control communities. In both AIN and control communities, advice to continue breastfeeding was rarely given. For advice from health providers in both groups, the majority of the responses in the "other" (non-pre-coded) category made some reference to medicine, antibiotics, or anti-diarrheals being given to the children with diarrhea. For all of this advice, sample sizes are small so results should be interpreted with caution (Table 9.5).

Table 9.5: Advice Received by Caretakers of Children with Diarrhea, by Provider Giving the Advice

	AIN				Control	
	By AIN *Monitora*		By Health Providers		By Health Providers	
Advice given	%	Number of caretakers consulting this provider	%	Number of caretakers consulting this provider	%	Number of caretakers consulting this provider
To give litrosol	80.0		57.7		64.1	
Not to stop breastfeeding	16.7		5.8		2.6	
To continue giving food	10.0		5.8		12.8	
To give more liquids	16.7		15.4		7.7	
Danger signs were mentioned	0	30	5.8	52	0	39
Received referral to higher level of health care	10.0		0		0	
Was shown how to prepare litrosol	3.3		1.9		5.1	
Was given an appointment or received a follow-up visit	0		0		7.7	
Other	26.7		63.5		61.5	

Note: Responses are not mutually exclusive.

9.3 Care Practices during Diarrhea

The care practices studied included oral rehydration therapy (ORT), breastfeeding and complementary feeding during episodes of diarrhea, and a combined score for continued fluids and feeding.

9.3.1 Oral Rehydration Therapy (ORT)

In this report, oral rehydration therapy is defined as the use of oral rehydration solution (ORS), known locally as *litrosol,* or the use of home fluids (HF). The official Ministry policy promotes litrosol for children presenting one or more signs of dehydration. Continued or increased fluids are recommended for all cases of diarrhea. Many caretakers use a variety of home fluids, such as chamomile and cinnamon teas, coconut milk, rice water, and juice, to rehydrate their children.

In Table 9.6, the findings for ORS alone, home fluids alone, and the total of either ORS or home fluids are compared for AIN and control communities. As these data show, the proportion of caretakers using ORS was similar in AIN and control communities at the time

of the baseline (32% and 30%, respectively). In AIN communities, the proportion of children with diarrhea who received ORS increased significantly to 50% at midterm. The use of ORS in control communities remained essentially stable at 32%. This difference in the use of ORS between the two groups at midterm is statistically significant. For home fluids, the rates in the two groups were similar at baseline (8% and 9%) and at midterm (16% in both groups).

Given that a caretaker may offer both ORS and home fluids to children with diarrhea, the total proportion of caretakers who gave ORS, home fluids, or both was calculated to provide the overall proportion of *oral rehydration therapy (ORT)*. ORT use in AIN communities increased significantly, rising from a baseline level of 37% to 57% at midterm. Control communities increased from 36% to 42%. AIN caretakers were thus significantly more likely to offer ORT to their children with diarrhea at midterm than were their counterparts in control communities.

Table 9.6: ORT Use at Baseline and Midterm

Type of rehydration therapy offered to child	AIN				Control			
	Baseline		Midterm		Baseline		Midterm	
	%	Number of children with diarrhea	%	Number of children with diarrhea	%	Number of children with diarrhea	%	Number of children with diarrhea
Gave ORS (*litrosol*) [§]	32.0		49.5 [†††]		29.7		31.8	
Gave home fluids (HF)	8.3	181	16.3	190	9.1	165	15.9	176
Gave ORS, HF, or both (ORT)	37.0		56.8 [††]		36.4		41.5	

††   p ≤ .01 (based on Pearson Chi-Square test)
†††   p ≤ .001 (based on Pearson Chi-Square test)
§   p ≤ .05 (based on logistic regression analysis test)

9.1.2 Breastfeeding and Feeding during Diarrhea

In addition to offering ORS or home fluids to a child with diarrhea, caretakers are also counseled to increase the frequency of breastfeeding. To assess breastfeeding practices for children with diarrhea, caretakers were asked whether they had changed the frequency of their usual breastfeeding practice during this episode of diarrhea. If so, caretakers were asked if they increased, decreased, or suspended it altogether. The data displayed in Table 9.7 summarize the findings on frequency of breastfeeding during diarrheal illness for all mothers who are breastfeeding, regardless of whether the breastfeeding pattern is exclusive. As these data demonstrate, the vast majority of mothers in both AIN and control communities maintained the frequency of breastfeeding during diarrheal illness. These results are similar to baseline levels in which 95% of mothers reported maintaining the frequency of breastfeeding.

Table 9.7: Breastfeeding Practice during Diarrheal Illness at Midterm

	AIN		Control	
	%	Number of children with diarrhea and who are currently breastfed	%	Number of children with diarrhea and who are currently breastfed
Maintained breastfeeding	90.1		93.6	
Increased breastfeeding	5.7		1.6	
Decreased breastfeeding	3.5	141	4.8	125
Ceased breastfeeding	0.7		0	

Mothers who reported having introduced their children six months of age or older to other foods besides breastmilk were asked questions about feeding practices during the episode of diarrhea. These questions included whether the quantity of feeding was the same, more, or less than usual, or whether feeding had stopped completely (see Table 9.8). Fifty-four percent of caretakers in AIN and 53% in control communities reported maintaining the same quantity of food given to children during the diarrheal episode. In AIN communities, caretakers were about as likely to stop feeding the child during diarrheal illness (6%) as they were in control communities (8%). Overall, when "acceptable" feeding practices (defined for the purpose of this analysis as *maintaining* or *increasing* the quantity of food given) are compared to "deficient" practices (defined as *decreasing* or *stopping* feeding), 56% of caretakers in AIN communities and 53% in control communities have an acceptable feeding practice at midterm. These results are similar to baseline levels of 54% in AIN and 59% in control communities.

Table 9.8: Feeding Practice during Diarrheal Illness for Children 6 Months of Age or Older at Midterm

	AIN		Control	
	%	Number of children with diarrhea who are receiving food	%	Number of children with diarrhea who are receiving food
Maintained feeding	53.7		52.7	
Increased feeding	2.5		0.7	
Decreased feeding	37.7	162	38.4	146
Ceased feeding	6.2		8.2	

9.1.3 Continued Feeding and Fluids during Diarrhea

BASICS II uses an indicator that takes into account a combined score for caretakers reporting acceptable feeding practices (maintaining or increasing feeding) *and* offering sick children fluids (ORS or home fluids). According to this analysis, the proportion of children six months of age or older who were being offered both fluids *and* the same amount of or more food during the diarrheal illness in the two weeks prior to the survey increased from 21% at the time of the baseline to 33% at midterm in AIN communities. This proportion remained

stable in control communities, with 17% at baseline and 16% at midterm. The increase in AIN communities resulted in a significant difference between the two groups at midterm.

Table 9.9: Continued Feeding and Fluids during Diarrheal Illness for Children 6 Months of Age or Older at Midterm

	AIN				Control			
	Baseline		Midterm †††		Baseline		Midterm	
	%	Number of children with diarrhea who are receiving food	%	Number of children with diarrhea who are receiving food	%	Number of children with diarrhea who are receiving food	%	Number of children with diarrhea who are receiving food
Proportion of children with diarrhea who were offered fluids **and** the same amount of or more food	20.7	140	33.3	162	16.9	142	15.8	146

†††   p ≤ .001 (based on Pearson Chi-Square test)

9.4 Caretakers' Perceptions Concerning Danger Signs in Children with Diarrhea

In addition to questions concerning practices during the episode of diarrhea in the two weeks preceding the survey, all caretakers were asked what signs would alert them to the fact that an episode of diarrhea was serious. The data reported are spontaneous responses mentioned by the caretakers. These data are organized in Table 9.10 by signs of dehydration followed by the two special types of diarrhea requiring medical attention—bloody diarrhea and persistent diarrhea.

The sign most commonly mentioned by caretakers in both groups was *sunken eyes.* The AIN rate (60%) was significantly higher than the control rate (46%) at midterm. The proportion of caretakers mentioning this sign increased significantly in AIN communities from the baseline (46%), while in control communities it stayed similar to the baseline (49%) (p ≤ .01).

The second most commonly mentioned sign was *irritability or crying,* with similar levels of 32% in AIN and 30% in control. These results were similar to the baseline in AIN (27%), but they were significantly higher than the baseline (19%) in control communities (p ≤ .01).

Significantly more caretakers in AIN communities were also aware of *excessive thirst* as a danger sign at midterm (13%) compared to caretakers in control communities (6%), although both rates were low. Baseline levels were similar in both groups, with 7% in AIN and 6% in control communities.

Similar levels of caretakers—17% in AIN and 15% in control—were aware of *lethargy and unconsciousness* as a danger sign at midterm. However, in both groups, this rate was significantly lower than baseline levels of 38% in AIN and 34% in control communities (p ≤ .001).

For the midterm survey, another danger sign—*wrinkled and dry skin*—was added to the questionnaire. Significantly more caretakers in AIN communities (23%) were aware of this as a danger sign than caretakers in control communities (13%).

Overall, caretakers in AIN communities were significantly more likely to know two or more danger signs of dehydration than were their counterparts in control communities (46% and 32%, respectively). On the other hand, knowledge of bloody stools as a danger sign of severe diarrhea was rare, with less than 1% mentioning this sign. Knowledge of persistent diarrhea as a sign of serious diarrhea was more common and was similar in both groups at about 13%.

Table 9.10: Caretakers' Perceptions Concerning Danger Signs of Severe Diarrhea at Midterm

	AIN		Control	
	% who know sign	Number of women	% who know sign	Number of women
Caretakers' perception of individual danger signs for dehydration:				
Sunken eyes	59.7 †††		46.3	
Irritability / crying	31.7		29.5	
Excessive thirst	13.1 †††	596	5.9	572
Lethargy / unconsciousness	17.1		15.2	
Wrinkled and dry skin (skin pinch)	22.7 †††		13.3	
Caretakers mentioning any 2 or more of the above signs of dehydration	45.8 †††	596	31.5	572
Caretakers mentioning blood in stools as sign of severe diarrhea	0.5	596	0.5	572
Caretakers mentioning persistent diarrhea (> 14 days) as sign of severe diarrhea	13.6	596	13.1	572

†††   p ≤ .001 (based on Pearson Chi-Square test)

9.5   Discussion of Findings

About one-third of the children in both groups had an episode of diarrhea in the two weeks prior to the midterm survey. When the results of care-seeking for this episode are analyzed, it is clear that the *monitoras* are recognized by their communities as a source of care even though at the time of the midterm their training had not yet been extended from diarrhea management to IMCI classification. The presence of the *monitoras* in these communities provides an alternative to care-seeking at the CESARs and CESAMOs for routine episodes of diarrhea, allowing these health center staff to concentrate on more serious cases. Caretakers in AIN communities were also less likely to consult private doctors, clinics, and pharmacies or to rely on advice from family and neighbors. These findings suggest that training AIN *monitoras* to manage common childhood illnesses is a worthwhile investment.

Regarding the findings on advice given, 80% of caretakers who consulted *monitoras* were advised to give litrosol to their children, compared to those who consulted professional health providers in AIN communities (58%) or control communities (64%). MOH policy is to treat children with signs of dehydration with litrosol and to treat all children with diarrhea with the same or increased liquids. These recommendations may account for the less frequent advice on litrosol among health providers in both groups compared to *monitoras*. However, in following the MOH recommendations, one would expect to find health providers giving advice on increased liquids more frequently than the results demonstrate. References to advice received from health providers to give medicine, antibiotics or antidiarrheals, on the other hand, suggest that more IMCI training may be beneficial in reducing potentially inappropriate drug use. These results should be considered tentative, however, given the small sample sizes involved.

The findings related to oral rehydration therapy are particularly encouraging given that the increase in AIN communities is significantly higher than in control communities. This is consistent with the use of counseling messages in AIN communities, which promote litrosol for children with diarrhea.

Maintenance of feeding and fluids also clearly improved in AIN communities, compared to both baseline levels and to control communities. On the other hand, the finding that 38% of caretakers in both groups *decreased* the amount of food given to their children during diarrheal illness highlights an area where further study would be useful to determine whether caretakers are withholding food or children are refusing to eat.

In terms of knowledge of danger signs related to dehydration, a positive finding for the AIN program is the fact that caretakers are significantly more likely to know two or more signs of dehydration than their counterparts in control communities. Nevertheless, given the intensive IMCI training that has focused on this issue at health facilities (which are the most common source of care consulted overall), higher levels of knowledge of danger signs would have been expected than what was actually found at midterm. This may indicate that although health center staff are receiving this training, they are not communicating these messages to caretakers of sick children.

10. Acute Respiratory Infections

The next section of the survey collected data on acute respiratory infections (ARI). As with diarrhea, caretakers were asked about episodes of ARI that occurred in the two weeks preceding the survey. Data were collected on the overall prevalence of ARI, care-seeking, and feeding practices during the illness as well as general perceptions of the caretakers on danger signs of ARI and child illness in general. In addition to ARI-specific findings, this chapter presents a summary of the prevalence of both diarrhea and ARI occurring in the same two-week period in children under two years of age at the time of the midterm survey.

10.1 Prevalence of Acute Respiratory Infections

Caretakers were asked whether their child had suffered from a cough or difficult breathing during the two weeks preceding the survey. For those who responded affirmatively, a follow-up question was asked to determine if the child also had rapid breathing during this illness. The combination of cough or difficult breathing *and* rapid breathing is the definition of an ARI case needing assessment that was used in this analysis. It is important to note that these data were collected from the caretakers of these children and were not independently confirmed with a trained health provider to confirm a diagnosis of ARI.

As seen in Table 10.1, the prevalence of ARI found in the midterm survey is similar between AIN communities (24%) and control communities (22%). It would appear that the prevalence of ARI decreased significantly since the baseline survey when approximately one-third of the children in both groups were reported to have signs of ARI. However, as with diarrhea, these results must be interpreted with caution, given the difference in the timing of the baseline survey (May-July) compared to the timing of the midterm data collection (September-October).

Table 10.1: Prevalence of ARI in Children, by Group and over Time

	AIN				Control				Total			
	Baseline		Midterm		Baseline		Midterm		Baseline		Midterm	
	%	Number of children	%	Number of children	%	Number of children	%	Number of children	%	Number of children	%	Number of children
Children with ARI as proportion of all children in sample	33.3	474	23.5	596	32.1	464	22.4	572	32.7	938	22.9	1168

Although the overall prevalence of ARI was found to be similar between AIN and control communities at midterm, there were significant differences between AIN and control for children from 6–8 months of age and 9–11 months of age, as seen in Table 10.2. For children 6–8 months of age, the prevalence in AIN communities (34%) was significantly higher than

in control communities (20%). For children 9–11 months of age, the pattern was reversed with a significantly higher prevalence in control communities (33%), compared to AIN communities (16%). It is not clear what factors may have affected the prevalence in these specific age groups.

Table 10.2: Prevalence of ARI at Midterm, by Age Group

Prevalence of ARI needing assessment by age of child	AIN		Control		Total	
	%	Number of Children	%	Number of Children	%	Number of Children
0–3 months	23.0	100	16.3	92	19.8	192
4–5 months	22.0	50	15.4	52	18.6	102
6–8 months	34.2 [†]	73	19.8	91	26.2	164
9–11 months	15.6 [††]	109	33.0	88	23.4	197
12–23 months	24.2	264	23.3	249	23.8	513

†   p ≤ .05 (based on Pearson Chi-Square test)

††   p ≤ .01 (based on Pearson Chi-Square test)

10.2 Care-Seeking for Acute Respiratory Infections (ARI)

The caretakers who reported that their children had ARI were asked whether they had sought care from any source (including friends and family) for this illness. Forty percent of AIN caretakers and 48% of controls reported that they had sought care or advice from someone, usually within three days of the onset of the illness. These caretakers were then asked what source or sources of care they had consulted and in what order. Follow-up questions were asked to complete the picture of caretakers who consulted an AIN *monitora* or a health provider at any point in time for this episode of ARI. Of all the ARI cases reported in the midterm survey, 36% of caretakers of children with ARI in AIN communities and 44% in control communities reported that they had sought care from a *monitora* or *professional health provider*[14] for this episode of ARI. These results are shown in Table 10.3.

Of those who had sought care from *any* source in the AIN communities, 23% sought it at some point from a *monitora*. Eighty-four percent of caretakers in AIN and 92% in control communities who sought care from any source sought it from a professional health provider.

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[14] For the purposes of this survey, *professional health providers* were defined as doctors or staff from a CESAR or CESAMO, private clinic, hospital, or pharmacy.

Table 10.3: Care-Seeking for ARI at Midterm

	AIN		Control	
	%	**Number of children with ARI**	**%**	**Number of children with ARI**
Did not seek care from any trained source	63.6		56.2	
Sought care from a pneumonia volunteer, *monitora*, or professional health provider[15]	36.4	140	43.8	128
Of those who sought care from *any* source, proportion who sought it from AIN *monitora* at any point	23.2	56	0	61
Of those who sought care from *any* source, proportion who sought it from a professional health provider at any point	83.9		91.8	

In addition to the overall totals of care-seeking, data were analyzed on the first three sources of care and the order in which the sources were consulted. The rest of this section summarizes the results related to the *first source of care consulted. (Further details on the pattern of the first three sources consulted are presented in Annex M.)*

In both groups, the first source consulted was most frequently a CESAR or CESAMO (AIN: 41%; control: 53%). The second most common source of care in both groups was a private doctor, clinic, or hospital, with 21% of AIN caretakers and 27% of control caretakers consulting these sources first. AIN *monitoras* were consulted by 14% of the AIN caretakers as the first source of care. Pneumonia volunteers and other community volunteers were consulted first by 5% in AIN communities and 3% in control communities. Figure 10.1 presents these results.

Figure 10.1: First Source of Care Consulted for ARI at Midterm

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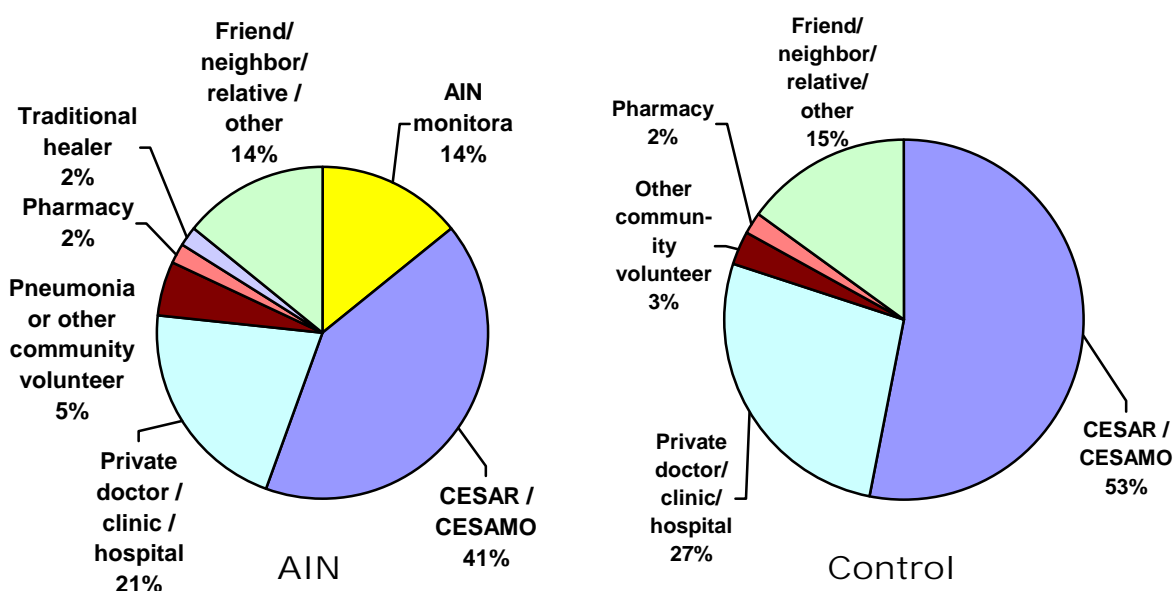
[15] Two cases of caretakers who sought care from a pneumonia volunteer were also included in this group as another trained, community-based source of care.

For those caretakers who sought care, data were collected on the advice that the caretakers were given by AIN *monitoras* and by professional health providers as well as on specific actions taken by the providers consulted. The most common advice given by AIN *monitoras* was to apply drops of chamomile in the noses of children with ARI to relieve nasal congestion. The most common action taken was to give the caretaker a referral to a health provider. The most common advice among health providers in both groups of communities was to give antibiotics and aspirin or anti-fever medicine. These data were based on small numbers of caretakers seeking care in AIN and control communities. These samples were too small to permit valid statistical testing and are presented here only for illustrative purposes.

10.3 Breastfeeding and Feeding Practices during ARI

The next series of questions for caretakers of children with ARI concerned feeding practices during this illness. These questions distinguished between *breastfeeding* practices for those children who were being breastfed at the time of the survey and *feeding* practices for those children six months of age or older who had been introduced to other foods by the time of the survey.

To ascertain breastfeeding practice during ARI, caretakers were first asked whether they were currently breastfeeding their child. Overall, AIN caretakers were significantly more likely to be currently breastfeeding (82%) than caretakers in control communities (67%) (p ≤ .01). Of those caretakers currently breastfeeding their child, however, there was no difference in the proportion who reported that they had continued to breastfeed at their normal frequency during this episode of ARI. For both AIN and control communities, 87% of caretakers who were breastfeeding their child at the time of the survey maintained the frequency of breastfeeding during this illness. Few caretakers reported either increasing or decreasing this frequency. These results are reported in Table 10.4.

Table 10.4: Breastfeeding Practice during ARI Illness

	AIN		Control	
	%	Number of children with ARI who are currently breastfed	%	Number of children with ARI who are currently breastfed
Maintained breastfeeding	87.0	115	87.2	86
Increased breastfeeding	3.5		1.2	
Decreased breastfeeding	9.6		11.6	
Ceased breastfeeding	0		0	

To establish a denominator for feeding practices during ARI, caretakers were asked whether they had introduced other foods besides breastmilk to their children. Nearly all caretakers of children six months of age or older responded that they had introduced other foods by the time of the midterm survey (AIN: 98%; control: 99%). Those caretakers who had introduced other foods were then asked about their feeding practice during this episode of ARI. As the results in Table 10.5 demonstrate, 45% of AIN caretakers and 54% of control caretakers reported that they had continued to give the sick child the same quantity of food during this

episode of ARI as they normally give the child. Offering less food was also a common practice in both groups, with 45% in AIN compared to 37% in control communities. About one in ten caretakers ceased feeding their child during this illness. These results are similar between the two groups.

Table 10.5: Feeding Practice during ARI Illness for Children ≥ 6 Months of Age

	AIN		Control	
	%	Number of children with ARI who are receiving foods	%	Number of children with ARI who are receiving foods
Maintained feeding	45.2		53.8	
Increased feeding	0		0	
Decreased feeding	45.2	104	36.5	104
Ceased feeding	9.6		9.6	

10.4 Caretakers' Perceptions of Danger Signs in Children with ARI

All caretakers being interviewed—regardless of whether their child had had ARI in the previous two weeks—were asked when they considered that a child with cough or difficulty breathing was seriously ill. The data collected are organized in Table 10.6 by danger signs of ARI, followed by general danger signs in Table 10.7.

The danger sign which was mentioned most often by caretakers in both groups was *rapid breathing*, with AIN caretakers being significantly more likely to mention this sign than control caretakers (70% vs. 63%). These findings are significantly lower in both AIN and control communities than the baseline rates of 76% in both groups (p ≤ .001).

At the time of the midterm survey, caretakers in AIN communities were significantly more likely to mention *chest indrawing* (23%) as a sign of a serious respiratory condition than caretakers in control communities (15%). The proportion of caretakers mentioning *stridor*[16] as a danger sign for ARI was similar in AIN communities (29%) and control communities (24%).[17] Overall, 83% of caretakers in AIN compared to 75% in control communities knew at least one of these danger signs for an acute respiratory infection needing assessment. This difference was statistically significant at midterm.

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[16] *Stridor* is a harsh noise made when the child inhales. Caretakers were asked whether the child "makes strange noises when breathing."

[17] *Chest indrawing* and *stridor* were two signs that were added to the midterm survey; for this reason, no comparison is made here with the baseline.

Table 10.6: Caregiver's Perceptions Concerning Danger Signs for ARI at Midterm

Danger sign	AIN		Control	
	%	Number of women	%	Number of women
Rapid breathing	70.1 [††]		62.6	
Chest indrawing	23.0 [†††]	596	15.4	572
Stridor	29.0		24.3	
Total of caregivers who cited at least one ARI danger sign	82.7 [†††]	596	75.0	572

††   p ≤ .01 (based on Pearson Chi-Square test)
†††   p ≤ .001 (based on Pearson Chi-Square test)

10.5 Caretakers' Perceptions of General Danger Signs

A child who *stops eating* was the sign mentioned most frequently by caregivers in both AIN (27%) and control communities (21%), although the difference between the two groups is statistically significant. Fewer than one in ten caretakers mentioned other signs such as a child who *has convulsions*, a child who *has trouble waking up or is unconscious*, or a child who *vomits everything he or she eats or drinks*. Overall, about one-third of caretakers in each group cited at least one general danger sign at midterm. Although these rates were similar between groups, there was a statistically significant interaction of group and time with an increase in AIN communities from a baseline rate of 10% to a midterm rate of 36%. This rate outpaced the increase in control communities, which rose from a baseline of 14% to a midterm rate of 33%. These results are displayed in Table 10.7.

Table 10.7: Caregiver's Perceptions Concerning General Danger Signs

Danger sign	AIN		Control	
	%	Number of women	%	Number of women
Stops eating	26.5 [†]		20.6	
Has convulsions	6.9 [†]		4.2	
Has trouble waking up / is unconscious	7.2	596	6.3	572
Vomits everything he or she eats or drinks	7.9		8.4	
Total of caregivers who cited at least one general danger sign [§]	36.2	596	32.7	572

†   p ≤ .05 (based on Pearson Chi-Square test)
§   p ≤ .05 (based on Logistic regression analysis test)

10.6 Prevalence of Children with Diarrhea and ARI in the Same Two-Week Period

As the data in Figure 10.2 show, approximately one in three children suffered from a bout of diarrhea in the two weeks preceding the midterm survey and more than one in five suffered from a bout of ARI. Furthermore, there is a critical overlap of children in each group who suffered from episodes of *both* diarrhea *and* ARI during the two weeks preceding the midterm survey. In fact, of the children who had ARI, 37% in AIN and 40% in control communities also had an episode of diarrhea during this same two-week period. Overall, 9% of the children in each group had both diarrhea and ARI. Although it is possible that depending on the duration of each illness, these children may not have had both illnesses on the same days, they were most likely sicker than children who had only one bout of illness or no illness in this period.

Figure 10.2: Prevalence of Combined Diarrhea and ARI Illness at Midterm
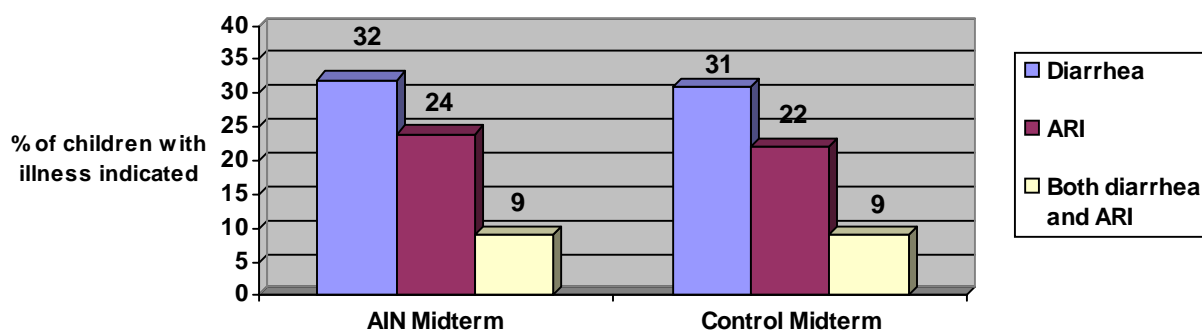
10.7 Discussion of Findings

As the results reported in this chapter indicate, more than one in five children in the study communities had an episode of ARI needing assessment in the two weeks preceding the midterm survey. It is important to note that the AIN program is not aiming to reduce the prevalence of ARI but to improve timely care-seeking and appropriate home care practices.

At midterm, 36% of AIN caretakers sought care from a pneumonia volunteer, AIN *monitora* or health professional for this illness, a finding which appears to be similar to the baseline rate of 39%. Control communities, on the other hand, have decreased from a baseline rate of 55% to a midterm rate of 44%. However, these results should be interpreted with caution since the baseline questionnaire only allowed for a single response on care-seeking when in fact many caretakers actually consulted several sources. The midterm results thus take into account the overall care-seeking *pattern*, considering all sources of care and the sequence in which the sources are consulted.

In AIN communities, 56% of caretakers first consulted *monitoras*, CESARs, and CESAMOs for this episode of ARI. This rate compares to control communities, where 54% of caretakers first consulted CESARs and CESAMOs. This finding suggests that training AIN *monitoras*

with the skills to manage respiratory illness in the community is a worthwhile investment since they are a recognized source of care for sick children. Their availability may reduce demand on health centers for mild respiratory illnesses that can be treated at home while encouraging timely care-seeking at facilities for more acute cases. These results should be considered tentative, however, given the small sample sizes for care-seeking in each provider category.

When the results of the first source of care consulted were analyzed, AIN *monitoras* were found to be a less common source of care for ARI than for diarrheal illness. This is not surprising, given that at the time of the midterm survey the AIN program was commencing expansion of the curative component of *monitora* training to include ARI and to incorporate more pneumonia volunteers, who were trained to provide curative care for ARI under a separate MOH program. Emphasis on treating illnesses has been strengthened with the introduction of a special module using IMCI protocols, but this new module was only beginning to be implemented at the time of the midterm survey. The results in the midterm reflect the focus on counseling, particularly on home care practices, that is present in the basic AIN training package.

Home care practices for ARI were found to be less positive than for diarrheal illness. About one in ten caretakers in both groups decreased breastfeeding, while 55% of AIN caretakers and 46% of controls decreased or stopped feeding children over six months of age during the episode of ARI. These rates are higher than the rates for diarrheal illness, during which higher proportions of caretakers maintained breastfeeding and feeding practices. This is an area in the AIN program with the potential to be strengthened to ensure that caretakers maintain feeding for sick children.

In terms of knowledge of ARI danger signs, it is encouraging to note that AIN caretakers were significantly more likely than control caretakers to mention rapid breathing. However, there is room for improvement as fewer caretakers mentioned this sign at midterm than at baseline. Rapid breathing is the main ARI danger sign that mothers recognize, so counseling messages should focus closely on this sign.

11. Breastfeeding and Feeding Practices

Mothers were asked a series of questions about breastfeeding practices, beginning with whether they had ever breastfed the child. If the mother had not breastfed her child, she was asked the reason. If she reported having stopped breastfeeding or having had any problem breastfeeding, she was asked the reason for stopping or the type of problem and whether she had sought advice, from whom, and what advice she had received. If the mother was currently breastfeeding, she was asked how frequently.

Caretakers were then asked a series of questions on the introduction of other liquids, introduction of complementary foods, use of baby bottles, and frequency of daily feeding. They were also asked about the benefits of breastfeeding, recommended length of time for exclusive breastfeeding, methods to employ to produce sufficient milk for the child, timing of introduction of complementary foods, consistency of foods, and ways of improving a child's appetite. Several of these variables were then used to form composite scores for child feeding practices, knowledge, and attitude. Results for the two composite scores are reported following the discussion on the results of each individual variable.

11.1   Prevalence of Breastfeeding

Breastfeeding is a nearly universal practice among caretakers in both AIN and control communities. When asked whether they had ever breastfed the child under two years being studied, 96% of the caretakers in AIN and 97% in control communities responded that they had. When asked whether they were *currently* breastfeeding this child, 75% of AIN caretakers and 70% of controls reported that they were. The results for AIN and control are similar in most age groups, with the exception of the children aged 12–13 months in AIN communities who were significantly more likely to be receiving breastmilk at the time of the midterm survey than control children of the same age. Figure 11.1 graphs these trends in both groups, and Annex N provides details on the proportions of children in each age group who are receiving breastmilk at the time of the midterm survey. It should be noted that these comparisons are based on small numbers of children in each age group.

Figure 11.1: Current Breastfeeding Trends at Midterm, by Age Group
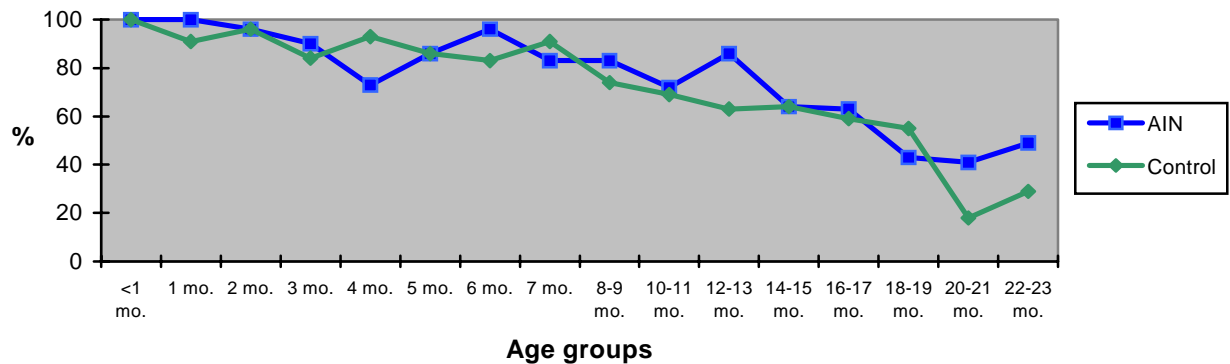
11.2   Problems Related to Breastfeeding

For the 21% of AIN mothers who had stopped breastfeeding by the time of this survey, the five most common reasons were as follows: (1) *the child no longer wanted to breastfeed / it preferred the bottle* (24%); (2) the mother produced *insufficient milk* (22%); (3) the *mother had to work or study* (10%); (4) the *mother became pregnant* again (11%); and (5) the *mother became ill* (9%). These were also commonly cited reasons for mothers in control communities, although for controls *insufficient milk* and *working* were the most commonly cited. Of the women who stopped breastfeeding, 22% in AIN (28 women) and 25% in control communities (38 women) sought advice before stopping. When these women sought advice on stopping, it was from a doctor or nurse in control communities and from doctors, nurses, and AIN *monitoras* in AIN communities. For all of these responses, sample sizes are small since a large proportion of the caretakers interviewed were breastfeeding at the time of this survey.

For those women who were currently breastfeeding at the time of the midterm survey, 12% in AIN and 14% in control communities reported having had a problem related to breastfeeding. The most frequently reported concern in both groups was a *problem with the breasts,* such as pain or swelling. In AIN communities, 85% of those reporting any difficulty cited this reason, compared to 78% in control communities. Few caretakers in either group cited *insufficient milk* or the *mother falling ill* as problems. Of those women currently breastfeeding who reported any problems, 37% in AIN and 48% in control communities sought advice. In both groups, the source of advice was the woman's mother or a breastfeeding counselor (*consejera de lactancia materna)*. AIN *monitoras* were not mentioned as a source of advice.

11.3   Frequency of Breastfeeding

Caretakers who reported that they were currently breastfeeding were asked about the frequency of feeding in the 24 hours preceding the survey. The survey used a pair of questions that considered breastfeeding during the day (6 a.m.–6 p.m.) separately from breastfeeding during the night (6 p.m.–6 a.m.). The results reported here are the combined

data for the full 24-hour period, and they include only those mothers who reported a specific frequency for both day and night breastfeeding. These results were analyzed by age group to take into account the fact that younger children who are being exclusively breastfed need more frequent breastfeeding than older children who receive complementary food. The age groups used for this analysis were 0–5, 6–8, 9–11, and 12–23 months. While ideally the data for children under six months of age could be disaggregated for each month, the sample sizes do not permit further analysis of age subgroups. *(Please refer to Annexes O and P for detailed presentations of the frequency of breastfeeding by day, by night, and by 24-hour period in each age range and group for AIN and control communities.)*

In the 0–5-months age group, 31% of AIN caretakers declared that they had breastfed their children 8 times or less in the previous 24 hours, 31% had breastfed 9–12 times, and 37% had breastfed 13 times or more compared to control communities where the frequencies were 42%, 26% and 32%, respectively. The mean frequencies were similar between groups with 10.58 in AIN, compared to 9.24 in control communities.

In the group of children 6–8 months of age, 25% of the caretakers in AIN communities declared that they had breastfed their children 8 times or fewer in the prior 24 hours compared to 38% in control communities. An additional 20% in AIN and 33% in control communities had breastfed 9–12 times. In AIN, 55% reported breastfeeding 13 or more times, compared to 29% in control communities. The mean frequencies were similar between groups with 11.0 in AIN compared to 9.0 in control communities.

For children 9–11 months of age, 33% of the caretakers in both AIN and control communities reported giving breastmilk 8 times or less in the prior 24-hour period. In AIN, 29% reported breastfeeding their infants 9–12 times, and 38% reported 13 or more times. In control communities, 37% reported breastfeeding 9–12 times and 30% reported 13 or more times. The mean frequencies were similar between groups with 9.89 in AIN, compared to 9.43 in control communities. Figure 11.2 presents summary data on breastfeeding frequency.

Figure 11.2: Comparison of Summary Data for 24-Hour Period for Children 0–5 Months, 6–8 Months, and 9–11 Months of Age at Midterm
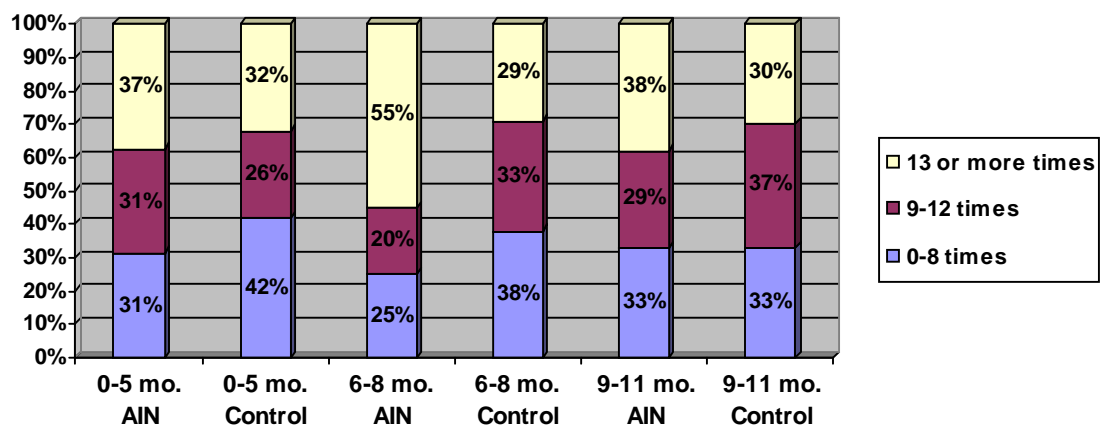
In the 12–23-month age group, 15% of the AIN caretakers reported breastfeeding 0–4 times in the 24 hours prior to the survey while 33% breastfed 5–8 times, 29% breastfed 9–12 times, and 23% breastfed 13 or more times. The control group appeared to have more of a peak around 5–8 times with 53%. Seven percent of controls breastfed their infants 0–4 times, 27% reported 9–12 times, and 13% reported 13 times or more. The mean frequencies were similar between groups with 7.99 in AIN compared to 7.22 in control communities. Figure 11.3 presents the frequency data for this age group.

Figure 11.3: Comparison of Summary Data for 24-Hour Period for Children 12–23 Months of Age, by Group, Midterm
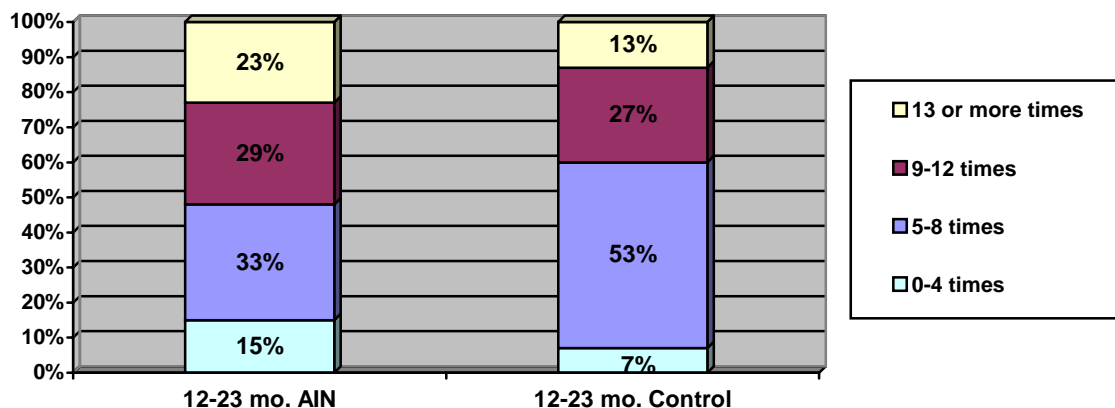
11.4 Knowledge of the Benefits of Breastfeeding

All caretakers were asked if they knew of the benefits of breastfeeding. Fifty-eight percent of AIN caretakers and 57% of controls cited their child falling ill less frequently as a benefit. AIN caretakers were significantly more likely than control caretakers to mention improved growth as another benefit (58% versus 50%, respectively, p ≤ .01). A small proportion of caretakers in both groups was not able to cite any specific benefit of breastfeeding (9% in AIN vs. 10% in control).

11.5 Attitude toward Introduction of Water and Other Liquids

When asked what they considered to be the appropriate age to introduce water and other liquids to a child, 44% of the AIN caretakers at midterm cited 6 months as the appropriate age to begin introducing water, significantly more than the 26% in control communities (p ≤ .001). The AIN rate increased significantly from the rate of 29% found at baseline while the control communities remained stable since their baseline rate of 26% (p <.001).

11.6   Introduction of Liquids and Complementary Foods

Questions on feeding practices asked the age of introduction of liquids (such as water, juice, tea, coffee, other types of milk besides breastmilk) and solid foods as well as inquired about the attitude toward the appropriate age of introduction of these items. Each of these items are analyzed separately in this section using two comparisons: (1) a comparison between groups for these practices as they related to children less than 6 months of age, compared to children 6 months of age and older, and (2) a comparison between groups for mean age at the time of introduction of these liquids and solid foods.

11.6.1 Comparison of Introduction of Liquids and Complementary Foods to Children Ages < 6 Months vs. ≥ 6 Months

The comparisons presented below on age of introduction of liquids and complementary foods were limited to children at least six months of age at the time of the survey. For children younger than 6 months of age, the AIN program promotes exclusive breastfeeding as the optimal practice. Nevertheless, cases were reported in both groups of caretakers who introduced water, juice, tea, coffee, and other types of milk as early as the first month of life.

The first comparison is the age of the child at the time of introduction of *water*. By the time children reached the age of six months, 67% of the caretakers in AIN and 80% in control communities had introduced water to them. These midterm results appear to show a decrease from the baseline rate of 77% in AIN communities and of 84% in control communities. The differences between groups were statistically significant at both baseline ($p \leq .05$) and midterm ($p \leq .001$).

Other types of milk besides breastmilk were introduced to children at an early age. In AIN communities, the proportion of caretakers who had introduced other milks to their children by the time they reached the age of six months decreased from a rate of 54% at baseline to 43% at midterm. In control communities, the rate increased slightly over time from a baseline level of 58% of caretakers to a midterm level of 60%. At midterm, the difference between the AIN and control rates was statistically significant at $p \leq .001$.

Juice was introduced later on average than other milk. By the age of six months, 49% of the AIN children, significantly less than the 66% found in control communities, had been introduced to juice ($p \leq .001$). These midterm results appear to show that juice is being introduced later in AIN communities (which had a baseline rate of 65% for children in this age group) compared to control communities, which have remained stable at the baseline rate of 66%.

By the age of six months, 45% of the AIN children and 55% of the control children had been introduced to *tea and/or coffee*. This difference was statistically significant at midterm at $p < .01$. These midterm results show that these liquids are being introduced later in AIN communities than in control communities. Both groups had a baseline rate of 54%.

The final comparison is the introduction of solid foods. Forty percent of the caretakers in AIN had introduced solid foods by the time their children reached six months, compared to 59% in control communities. This difference between the groups at midterm was statistically significant at p ≤ .001. Once again, the trend was a lower proportion of caretakers in AIN communities compared to the baseline level (53%) while the proportion in control communities had risen slightly from the baseline level (56%).

Figure 11.4: Proportions of Children in AIN and Control Communities Who Were Introduced to Liquids and Foods Other Than Breastmilk before Age 6 Months
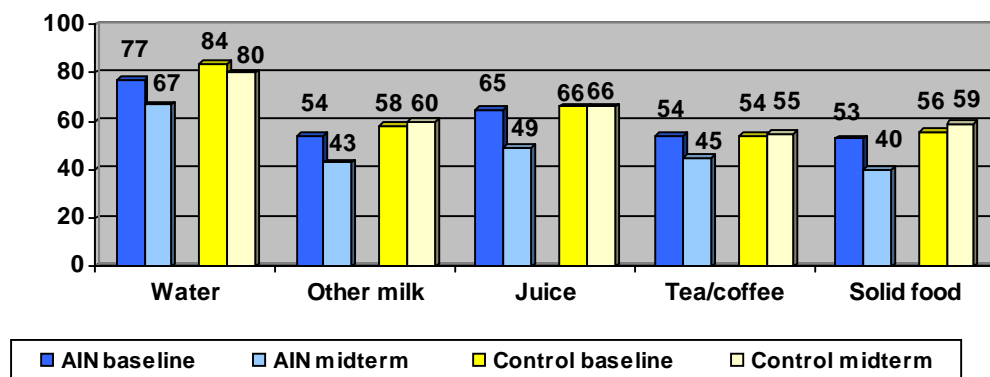
11.6.2 Comparison of Mean Ages of Introduction of Liquids and Complementary Foods

The mean ages of introduction of each liquid or solid food are calculated based on the responses from all caretakers who reported having begun feeding that item to their children and who were able to recall the age at which they had introduced the item. Overall, the mean age of all children in the sample is similar between the two groups at baseline, with AIN at 10.5 months and control at 11.0 (compared to mean ages at midterm of 10.8 months for AIN and 10.6 for control). As Figure 11.5 shows, the mean age of introduction of each liquid and of complementary food is higher on average in AIN communities than in control communities at midterm.

The mean age of introduction of water at midterm (for those mothers who reported that they had started giving it) was 3.6 months in AIN communities, significantly later than the mean of 2.8 months in control communities (p ≤ .01). The mean age of introduction of other types of milk increased from 3.8 months at baseline to 4.3 at midterm in AIN communities, whereas in control communities it decreased from 3.4 months to 3.1.

The mean age of introduction of juice at midterm was 4.7 months in AIN, significantly later than the 4.0 mean in control communities (p ≤ .001). In contrast, at the time of the baseline, both groups had similar levels of 4.0 (AIN) and 3.8 (control). The mean age of introduction of tea and coffee at midterm was similar between AIN at 4.5 months and control at 3.7. Both groups were similar to their baseline levels of 4.3 (AIN) and 4.1 (control).

The mean age of introduction of complementary foods in AIN communities rose from 5.0 months at baseline to 5.4 at midterm. Control communities, on the other hand, decreased from a mean of 5.0 months at baseline to 4.8 at midterm. The difference in mean age of introduction of solid food between the two groups was not significant.

Figure 11.5: Comparison of Mean Age of Introduction of Liquids and Foods between Groups at Midterm
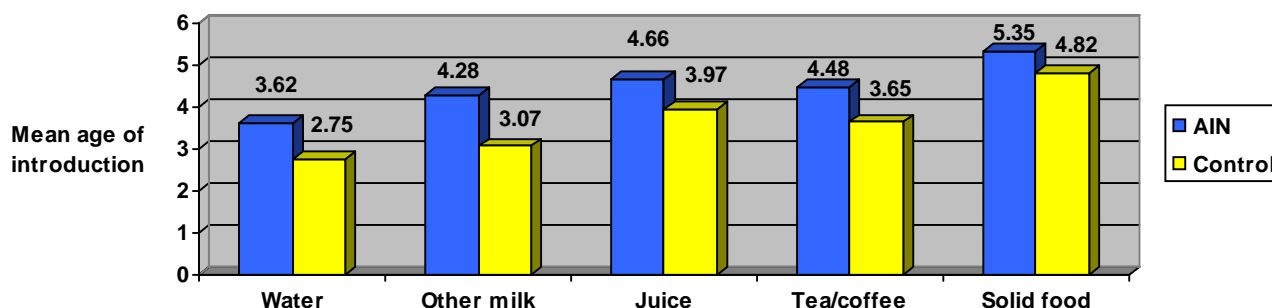
11.7   Age of Introduction of Beans

In addition to the questions on the introduction of liquids and solid food in general, caretakers were asked at what age they had introduced beans to their children, a practice that is promoted by the AIN program. The data were analyzed for all children six months of age or older who were introduced to beans by age nine months. The proportion of mothers giving beans by nine months in AIN communities remained similar over time with 28% at baseline and 26% at midterm. The rate in control communities decreased significantly, from 22% at baseline to 16% at midterm (p ≤ .05). The differences found between AIN and control at midterm are significantly different at midterm (p ≤ .001) but not at baseline.

11.8   Breastfeeding and the Introduction of Complementary Foods

The questionnaire collected data on the overall pattern of breastfeeding and complementary foods for different age groups of children by asking caretakers how they were generally feeding their child. Responses were grouped in one of four categories: breastfeeding exclusively, giving breastmilk with other liquids, giving breastmilk with other foods, or only giving other foods with no breastmilk. Data were analyzed for each month of age from 0 to 5 months and then by grouping children 6–8, 9–11, and 12–23 months of age. Summary analyses for children under 4 months and under 6 months were also prepared. As seen in Table 11.1, exclusive breastfeeding is consistently reported by a higher percentage of AIN caretakers in each age group from 0–4 months than in controls. These differences between the groups are statistically significant for children ages less than 1 month, 2 months, 3 months, and 4 months. Children 5 months of age appeared to be an exception to this trend. In this case, caretakers in control communities reported somewhat higher levels of exclusive breastfeeding than in AIN communities, but the difference was not significant.

For all children under 4 months of age, 56% of caretakers in AIN, compared to 24% in control communities, reported exclusive breastfeeding. For children under 6 months of age, 46% of caretakers in AIN and 19% in control communities reported exclusive breastfeeding. In both of these summary age groups, these differences are statistically significant. From the time of the baseline in 1998 until the midterm survey in 2000, the rate of exclusive breastfeeding declared by caretakers of children under 4 months in AIN communities increased from 35% to 56%, while the rate in control communities decreased from 33% to 24%. A similar pattern is seen in the rate for children under 6 months, which increased in AIN communities from 26% to 46% while it decreased from 23% to 19% in control communities.

For children 6–8 months of age—the age when complementary foods are expected to be introduced—81% of caretakers in AIN communities reported introducing foods while continuing to breastfeed, compared to 76% in control communities. Both of these groups showed a similar increase from the baseline findings of 73% in AIN and 67% in control. *(Please refer to Annex Q for baseline findings.)*

Table 11.1: Breastfeeding and Complementary Feeding at Midterm

Age of child	AIN				
	% giving only breastmilk	% giving breastmilk and other liquids	% giving breastmilk and food	% not giving breastmilk, just food	Number of children in this age range
<1 month [†]	64.7	35.3	0	0	17
1 month	64.3	28.6	7.1	0	28
2 months [††]	60.0	36.0	0	4.0	25
3 months [†]	40.0	46.7	3.3	10.0	30
4 months [†††]	40.9	27.3	9.1	22.7	22
5 months	14.3	21.4	50.0	14.3	28
6–8 months	2.7	4.1	80.8	12.3	73
9–11 months	1.8	0.9	70.6	26.6	109
12–23 months	0	0	59.1	40.9	264
Subtotal for children < 4 mo. [†††]	56.0	37.0	3.0	4.0	100
Subtotal for children < 6 mo. [†††]	46.0	32.7	12.7	8.7	150
continued					

Age of child	Control				
	% giving only breastmilk	% giving breastmilk and other liquids	% giving breastmilk and food	% not giving breastmilk, just food	Number of children in this age range
<1 month	30.8	69.2	0	0	26
1 month	40.9	54.5	0	4.5	22
2 months	12.0	84.0	0	4.0	25
3 months	10.5	47.4	26.3	15.8	19
4 months	3.3	53.3	36.7	6.7	30
5 months	18.2	13.6	59.1	9.1	22
6–8 months	0	6.6	75.8	17.6	91
9–11 months	0	0	69.3	30.7	88
12–23 months	0.4	0.4	50.2	49.0	249
Subtotal for children < 4 mo.	23.9	65.2	5.4	5.4	92
Subtotal for children < 6 mo.	18.8	54.9	20.1	6.3	144

† $p \le .05$ (based on Pearson Chi-Square test)
†† $p \le .01$ (based on Pearson Chi-Square test)
††† $p \le .001$ (based on Pearson Chi-Square test)

Exclusive breastfeeding rates were derived from data on the age of introduction of water, juice, tea, coffee, other milk, and complementary foods (in addition to reports of the "breastmilk only" feeding pattern) as a means of cross-checking reported behaviors. These rates are displayed in Figure 11.6. As these data show, the patterns are similar to the data from the current feeding question alone: AIN rates increased from 27% to 49% for children under 4 months and from 21% to 39% for children under 6 months of age, while control rates decreased from 20% to 17% for children under 4 months and from 15% to 13% for children under 6 months. These changes are statistically significant for both age groups at midterm (p < .001) and for the comparison of the trends over time between the two groups (p < .05).

Figure 11.6: Exclusive Breastfeeding Rates

Children < 4 months   Children < 6 months
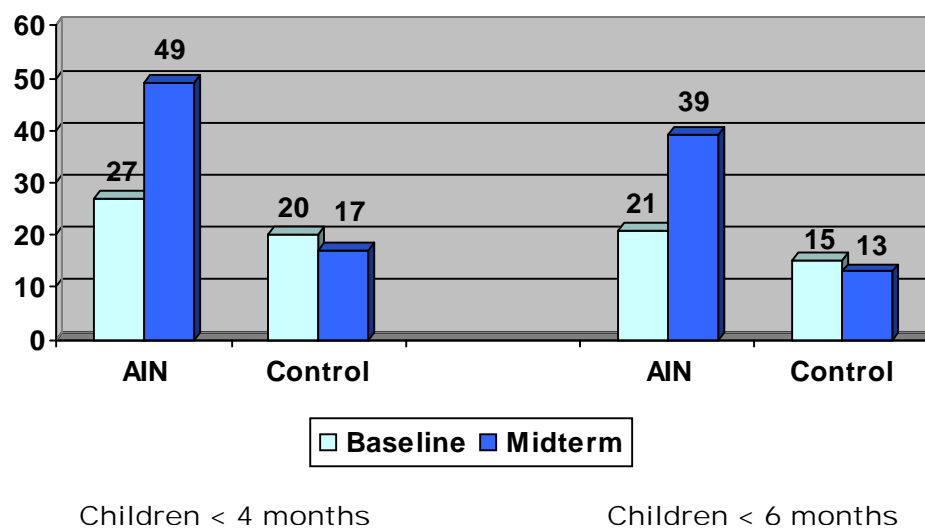
11.9 Child Feeding Index (CFI) and Scores

To better understand overall child feeding practices, indices were developed for children who were 6–8 months, 9–11 months, and 12–23 months of age. The three indices considered the frequency of breastfeeding, use of baby bottle, and the frequency of consumption of semi-solid foods as the key practices. The child feeding indices for children 6–8 months and 9–11 months also took into consideration the pattern of breastfeeding with complementary foods. Each of these practices was assigned a score from 0–2 points, according to whether the practice was considered sub-optimal, adequate, or optimal. Average scores for caretakers in both groups were then compiled. This section will briefly review the findings from individual questions before presenting the overall results of the Child Feeding Index. *(For a more detailed look at the CFI scoring system, please refer to Annex R).*

11.9.1 Breastfeeding Frequency

For children 6–8 months of age, breastfeeding frequency data for the prior 24 hours was analyzed with *optimal* defined as 6 or more breastfeeding episodes; *adequate* breastfeeding as 1–5 times; and *sub-optimal* as no breastfeeding during the 24 hours preceding the survey. As the results in Figure 11.7 demonstrate, the vast majority of AIN caretakers (89%) had optimal breastfeeding practices, compared to 78% in control communities. For both groups, this represented an increase over baseline levels of 70% in AIN and 64% in control communities, but these differences were not statistically significant.

Figure 11.7: Breastfeeding Frequency for Children 6–8 Months of Age at Midterm

AIN

n = 70

Control

n = 85

Legend: Optimal, Adequate, Sub-optimal

AIN: 10%, 1%, 89%
Control: 15%, 7%, 78%
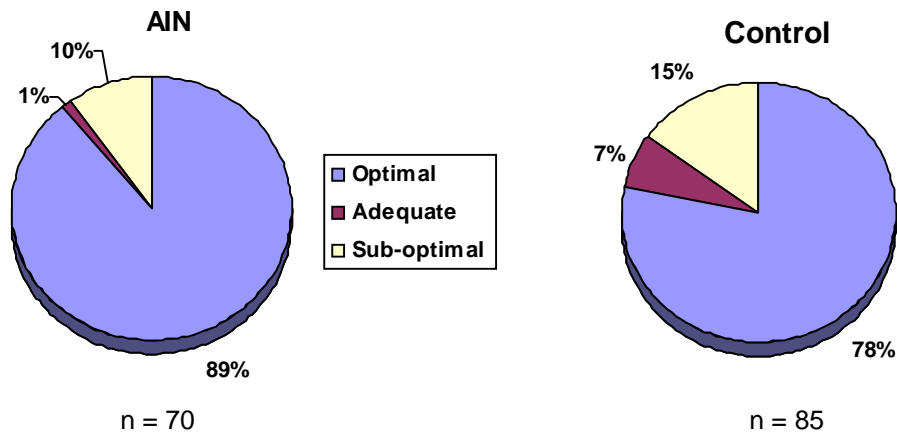
For children 9–11 months of age, breastfeeding frequency data for the prior 24 hours were analyzed with *optimal* defined as 5 or more breastfeeding episodes; *adequate* breastfeeding as 1–4 times; and *sub-optimal* as no breastfeeding during the 24 hours preceding the survey. As shown in Figure 11.8, the clear majority of caretakers in AIN communities (76%) and in controls (71%) had optimal breastfeeding practices with few caretakers having only adequate practices (3% AIN vs. 5% control). The optimal practice results were similar to the baseline levels of 68% in AIN and 69% in control communities. At midterm, AIN and control communities had similar percentages of caretakers with no breastfeeding (AIN: 21%; control: 24%).

Figure 11.8: Breastfeeding Frequency for Children 9–11 Months of Age at Midterm

AIN

n = 94

Control

n = 82

Legend: Optimal, Adequate, Sub-optimal

AIN: 21%, 3%, 76%
Control: 24%, 5%, 71%
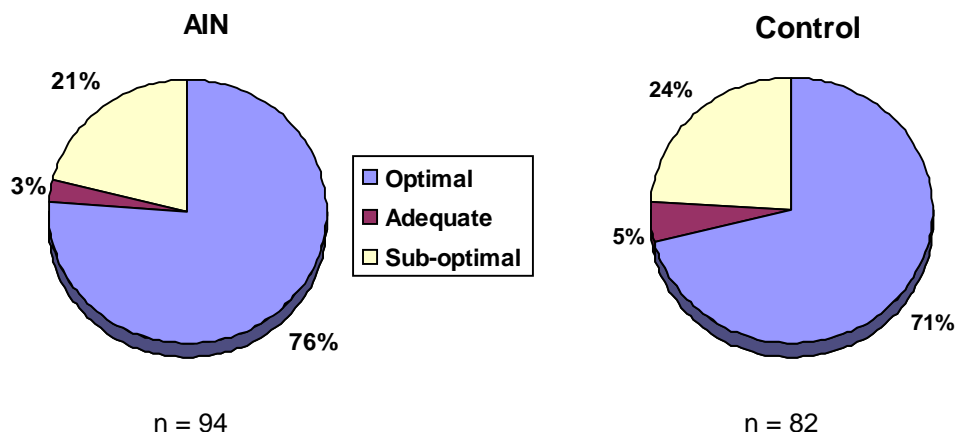
For children 12–23 months of age, breastfeeding frequency data for the prior 24 hours were analyzed with *optimal* defined as 4 or more breastfeeding episodes; *adequate* breastfeeding as 1–3 times; and *sub-optimal* as no breastfeeding during the 24 hours preceding the survey. As the results in Figure 11.9 demonstrate, 60% of AIN caretakers had optimal breastfeeding practices compared to 51% in control communities. For both groups, these results were similar to baseline levels of 59% in AIN and 53% in control communities. At midterm,

control communities had a greater percentage of caretakers with no breastfeeding than AIN (48% vs. 38%), but the difference was not statistically significant.

Figure 11.9: Breastfeeding Frequency for Children 12–23 Months of Age at Midterm

AIN

38%

60%

2%

n = 246

Optimal
Adequate
Sub-optimal

Control

48%

51%

1%

n = 236
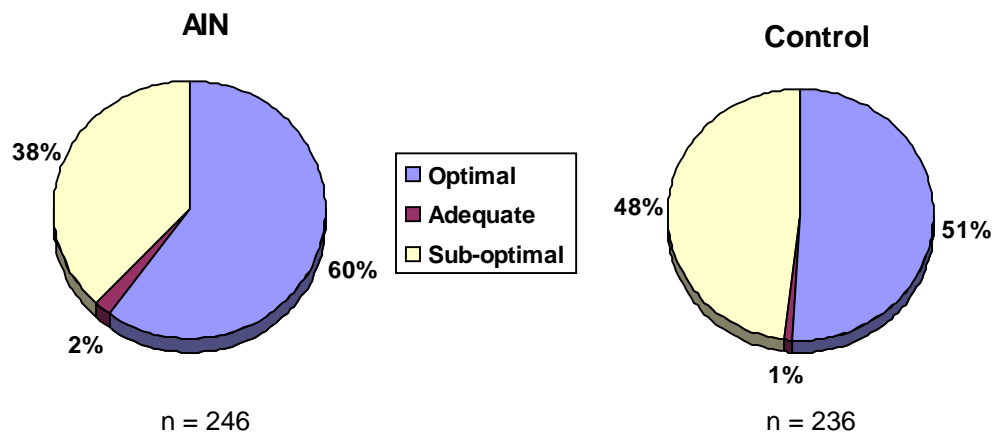
11.9.2 Use of Baby Bottles

Caretakers were asked about their practice of using a baby bottle in the day prior to the survey. When asked how they generally serve milk and other liquids to their children, 46% of AIN caretakers reported using a bottle, compared to 66% of control caretakers. Serving containers (which are suggested in counseling messages) such as cups, glasses, and spoons were cited by 42% of the AIN caretakers, compared to 29% of control caretakers at midterm. These differences were statistically significant at midterm ($p < .001$), whereas baseline levels were similar in both groups at 38% for AIN and 36% for control communities.

In considering the use of baby bottles for the Child Feeding Index, the analysis was structured to distinguish caretakers who had used a baby bottle in the prior 24 hours or who generally served liquids with a bottle from caretakers who did not report using bottles. All three age groups were found to have the same pattern of less bottle use in AIN communities than in control communities as shown in Figure 11.10: 47% compared to 69% for children 6–8 months of age, 44% compared to 67% for 9–11 months, and 54% compared to 70% for children 12–23 months. In each age group, these differences were found to be statistically significant at midterm ($p \leq .01$).

Figure 11.10: Bottle Use in AIN and Control Communities at Midterm

Caretakers who use baby bottles
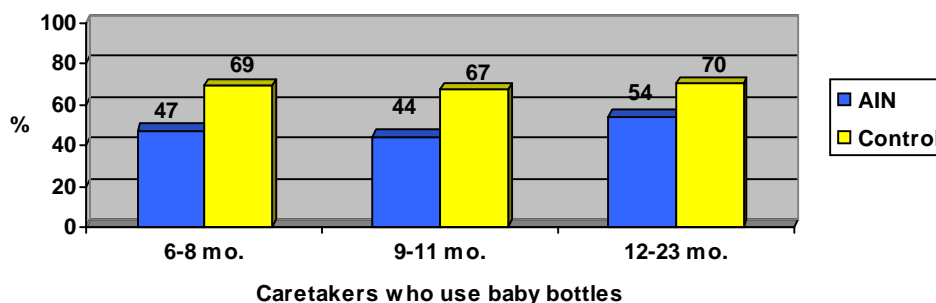
11.9.3 Declared Pattern of Breastfeeding and Complementary Foods

The variable of declared pattern of breastfeeding and complementary foods used the four categories reported in Section 11.8 above: exclusive breastfeeding, breastfeeding with other liquids, breastfeeding with complementary foods, or complementary foods with no breastfeeding. This overall feeding pattern was included in the CFI scores only for children ages 6–8 months and 9–11 months. Breastfeeding with complementary foods was considered to be the optimal practice in these age groups. Caretakers reporting this feeding practice earned a score of two points. Feeding with complementary foods and no breastfeeding was considered an adequate practice, and it earned one point. Breastfeeding with other liquids but no food and exclusive breastfeeding did not earn any points.

As seen in Figure 11.11, the results show similar patterns in both groups, with 80% of the AIN caretakers and 75% of the controls in the optimal category for children 6–8 months. Both groups appeared to have increased somewhat from their baseline levels of 74% in AIN and 70% in control. For children ages 9–11 months, 71% of AIN caretakers and 69% of controls were in the optimal group. These results are very similar to baseline levels of 73% and 72%, respectively. None of the differences between groups was statistically significant.

Figure 11.11: Overall Feeding Patterns for Children Ages 6–8 Months and 9–11 Months at Midterm

Children 6–8 months   Children 9–11 months
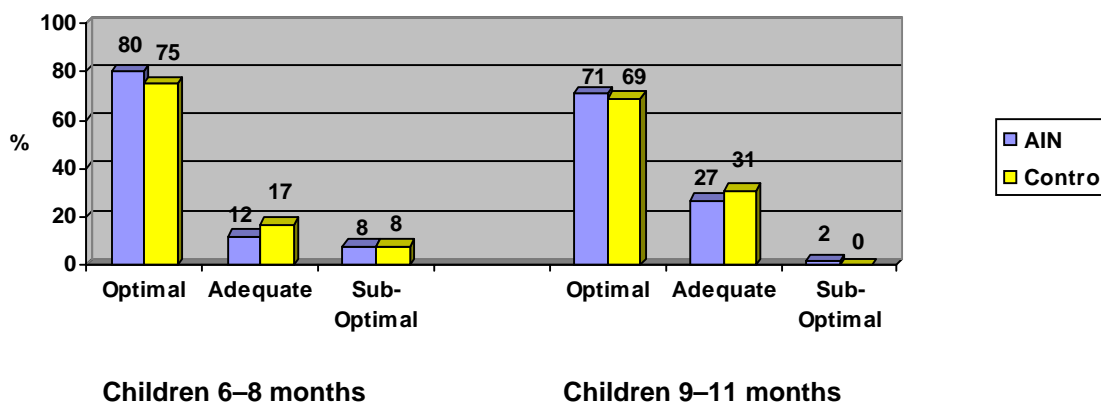
11.9.4 Frequency of Consumption of Complementary Foods

The next variable combines the frequency of breastfeeding with the frequency of complementary foods to produce an overall picture of the frequency of feeding. Caretakers were divided into two groups as having either (1) optimal or adequate breastfeeding practice or (2) sub-optimal practice. Then the frequency of feedings of complementary foods was analyzed for each group. For those caretakers whose breastfeeding practice was sub-optimal, requirements for the frequency of complementary feedings were higher. (*Please refer to Annex R for the details of the points and frequencies for each age group.*)

As the results in Figure 11.12 show, in the two youngest age groups, the majority of the caretakers in both groups scored in the optimal frequency group. There were differences between the two groups in the optimal category, with 95% in AIN compared to 85% in control communities for children ages 6–8 months and 78% compared to 63% for children ages 9–11 months, but the differences were not statistically significant. In the 12–23 month age group, there were far fewer caretakers in the optimal group, although the AIN result of 36% was significantly higher than the control result of 11% ($p \le .001$). The majority of the caretakers in this age group were scored as having adequate feeding practice, with 62% of AIN and 82% of control caretakers.

Figure 11.12: Overall Frequency of Feedings for Children Ages 6–8, 9–11, and 12–23 Months at Midterm
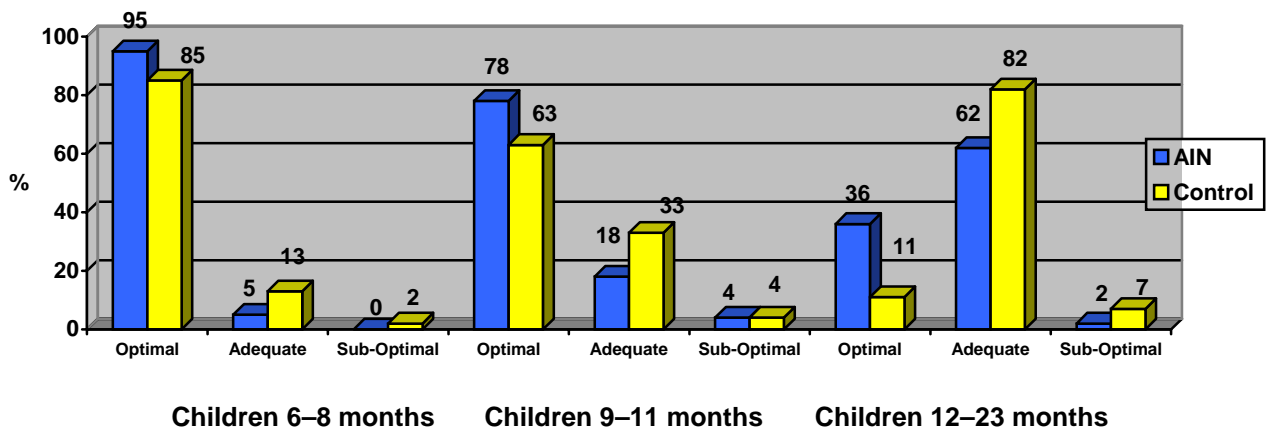
11.9.5 Summary of Findings for Composite Child Feeding Scores

When the composite child feeding scores were calculated using the variables described above, the AIN communities were found to have a significantly higher mean score at midterm (6.14) than control communities (5.54) for caretakers of children 6–8 months of age ($p \le .05$). For children 9–11 months of age, the mean scores were similar, with 5.63 for AIN and 5.12 for control communities; however, when children ages 6–12 months were combined for greater sample size and statistical power, the difference between the mean scores for AIN and control groups at midterm was statistically significant ($p \le .001$).

For the older age group of 12–23-month-old children, three variables were used to calculate the child feeding score: frequency of breastfeeding, bottle use, and frequency of feeding in general. The AIN communities had a significantly higher mean score at midterm (3.02) than control communities (2.40) (p ≤ .001). These data are presented in Figure 11.13.

Figure 11.13: Mean Child Feeding Scores by Group and by Age

| Maximum score: 7 | Maximum score: 7 | Maximum score: 5 |
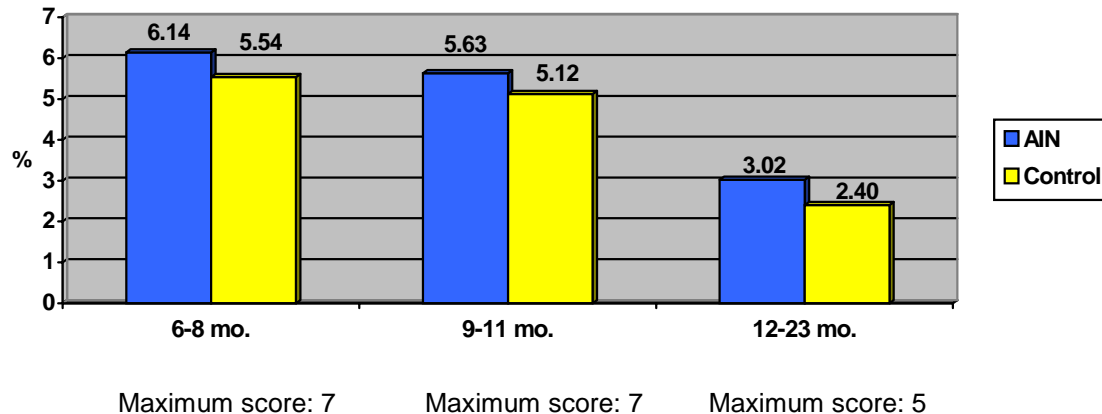
11.10 Knowledge, Attitude, and Practice Scores

Similar to the child feeding score, a knowledge and attitude scoring system was developed based on nine variables in the midterm survey. Five of these nine variables were also used at the time of the baseline survey, thus allowing a comparison of the two groups over time on that subset of variables. Knowledge and attitude scores were calculated for caretakers of children 6–8 months, 9–11 months, and 12–23 months of age. An overall comparison for children 0–23 months of age was also calculated to test for statistically significant differences between groups.

The variables and the surveys in which they were collected are as follows:
➢ Awareness of exclusive breastfeeding during the first six months of life (midterm only)
➢ Techniques for producing sufficient breastmilk (baseline and midterm)
➢ Appropriate age for introducing complementary food (baseline and midterm)
➢ Appropriate consistency of a child's first complementary foods (baseline and midterm)
➢ Appropriate age to begin feeding a child the same diet as the rest of the family (baseline and midterm)
➢ Most nutritious consistency of soup ("*sopa espesa*" concept) (baseline and midterm)[18]
➢ Techniques for preparing thick soup (midterm only)

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[18] Caretakers in Honduras have been found to feed the watery broth of soup to their children with little of the actual foods contained in the soup. Counseling messages, therefore, emphasize thickening the soup by mashing the contents of the soup and adding just enough broth for a liquid consistency.

- ➢ Awareness that a two-year-old child is capable of consuming half as much as an adult (midterm only) [19]
- ➢ Techniques that caretakers have used to improve the child's appetite (midterm only)

These questions were asked of all caretakers with the exception of the appetite improvement question, which was asked only of caretakers whose children had suffered from a lack of growth or depressed appetite at some point in time. Each of these items was assigned a score of 0 or 1 point for a total potential score of 9 points per caretaker. Scores for caretakers were then used to compare AIN and control communities. *(For a more detailed look at the knowledge and attitude scoring system, please refer to Annex R).* This section will briefly review the findings from individual questions before presenting the overall results of the knowledge and attitude scores.

11.10.1 Awareness of Exclusive Breastfeeding

Caretakers were asked if they had heard of *exclusive* breastfeeding. Fifty-two percent of AIN caretakers were aware of this concept, and of them, 82% stated that the child should receive only breastmilk for the first six months of life. For those who had heard of exclusive breastfeeding, the three most common sources were an AIN *monitora*, a nurse, or a doctor. The findings in control communities were similar, with 47% of caretakers having heard of exclusive breastfeeding. Of the caretakers in control communities who had heard of exclusive breastfeeding, 73% cited six months as the ideal period. For these women, nurses were the most common source of information on breastfeeding followed by doctors.

For the calculation of the knowledge score, caretakers who answered *6 months* in response to the question on how long a child should receive only breastmilk received one point. All other responses were considered incorrect. In each age group, caretakers in AIN were more likely to cite 6 months as the correct time period for exclusive breastfeeding than caretakers in control communities. These differences were statistically significant only when the entire sample of 1,168 children was considered, with 43% of AIN caretakers citing 6 months as the correct time period compared to 34% of controls ($p \leq .01$), as shown in Figure 11.4.

Figure 11.14: Awareness of Exclusive Breastfeeding until 6 Months

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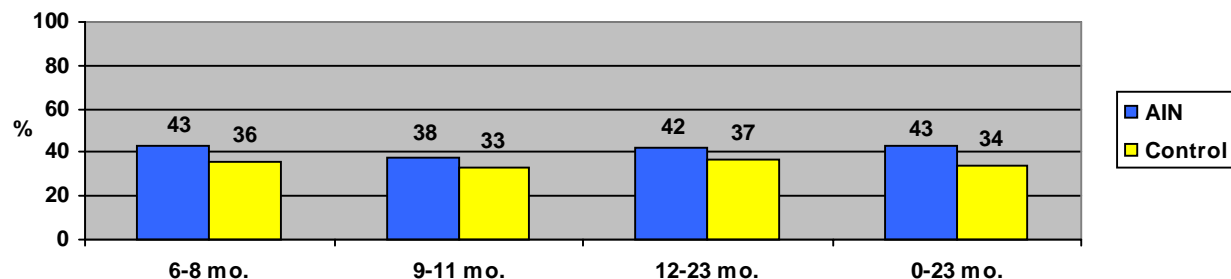
[19] Caretakers in Honduras typically assume that a child eats less than this amount, so counseling messages are designed to encourage caretakers to offer a child sufficient food.

11.10.2 Techniques for Producing Sufficient Breastmilk

Since concern that the mother was not producing sufficient milk was one of the most commonly cited reasons for stopping breastfeeding, caretakers were asked what techniques they believed a mother should use to produce sufficient milk for her child. By far the most common response in both groups was *drinking lot of liquids* such as *pinol* (a local drink made of ground corn and chocolate), chocolate, and soft drinks (73% in AIN and 72% in control). This reason was also commonly cited at the time of the baseline survey by 66% of caretakers in AIN and 72% in control communities. *Eating well* was the next most common response in both groups, although significantly fewer AIN caretakers mentioned this reason than caretakers in control communities (69% vs. 76%, p < .05). *More frequent breastfeeding* was a significantly more common response in AIN communities at midterm (22%) than in control communities (7%) (p ≤ .001). This finding also shows a significant increase over time in the AIN communities, where only 6% of caretakers mentioned this technique in the baseline survey, compared to a fairly stable rate in control communities (4% at baseline compared to 7% at midterm) (p ≤ .05). *Feeding from both breasts* and *waking the child* if the child was sleeping too long were rarely mentioned in either group (3% and 4%, respectively in AIN communities, compared to 1% and 0.3% in control communities).

For the calculation of the knowledge score, responses to *breastfeed frequently*, to *feed from both breasts,* to *wake the child if he sleeps for a long time* were considered acceptable and any one of these three options would earn 1 point for the caretaker. For the group of children ages 0–23 months, 23% of AIN caretakers were able to cite at least one technique for stimulating production of breastmilk, compared to 7% of control caretakers. As seen in Figure 11.15, differences between AIN and control communities for children 6–8, 12–23 months and 0–23 months were statistically significant at p ≤ .001.

Figure 11.15: Knowledge of Ways to Produce Sufficient Breastmilk
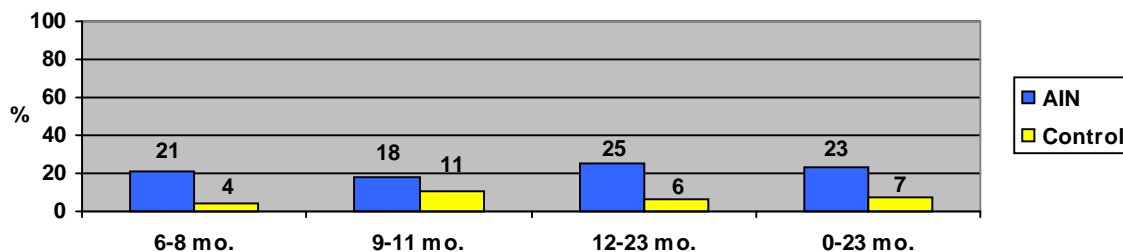
11.10.3 Appropriate Age for Introducing Complementary Food

The next knowledge variable was the appropriate age for introducing complementary foods. Responses greater than or equal to 6 months received one point. The differences between groups were found to be statistically significant at p ≤ .05 or greater for each age group except 9–11 months, as presented in Figure 11.16. Overall, 76% of AIN caretakers compared to 63% of controls responded correctly to this question at midterm. Interestingly, both groups

had a rate of 70% at baseline; thus, the AIN rate appears to have improved while the control group declined.

Figure 11.16: Appropriate Age for Introducing Complementary Food
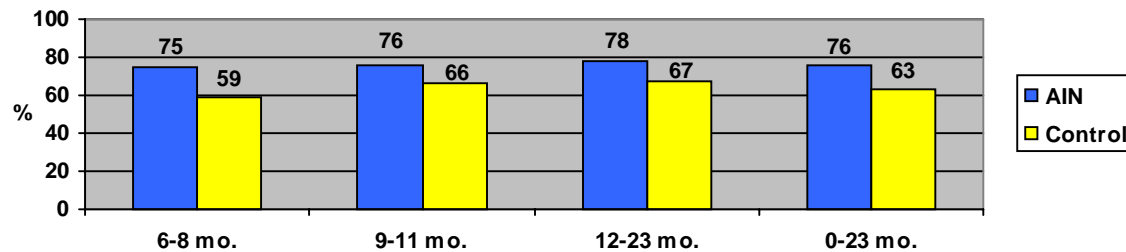
11.10.4   Appropriate Consistency of a Child's First Complementary Foods

Caretakers were asked what they considered to be the appropriate consistency of a child's first complementary foods. Caretakers who responded that they should be *mashed, ground, thick*, or *cut into pieces* were given a point. Overall, the results were similar in both groups and in all ages, with 96% of AIN caretakers and 94% of controls citing at least one of these correct responses. These results are also consistent with baseline findings of 96% in each group.

11.10.5   Best Age to Begin Feeding a Child the Family Diet

Caretakers were asked at what age they believed to be the best time to begin feeding a child food from the "family pot" (meaning the same food that other members of the family were eating). Responses ranging between 6 and 12 months earned one point. Overall, the results were similar in both groups and in all ages, with 88% of all caretakers in both groups citing a correct response at midterm.

11.10.6   Consistency of Soup

Caretakers were asked what they considered to be the best consistency for soup. The correct answer was *thick*, which earned one point. In all age groups, AIN caretakers were significantly more likely to consider thick soup an appropriate food for children than their counterparts in control communities (86% vs. 61%, $p \leq .001$). Interestingly, the proportion of AIN caretakers correctly responding to this question increased from 73% at baseline, whereas the control proportion has decreased from a baseline rate of 71%. This difference between the trends in these two groups over time was statistically significant at $p \leq .001$. (See Figure 11.17.)

Figure 11.17: Consistency of Soup
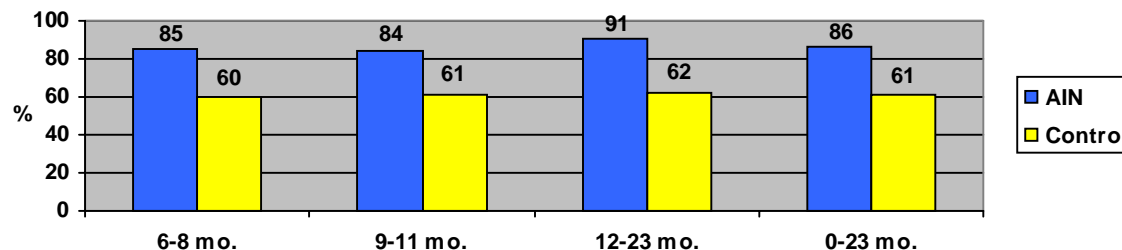
11.10.7   Techniques for Preparing Thick Soup

For the next element of the knowledge score, caretakers who had heard of the concept of "*sopa espesa*" (thick soup) were asked how it should be prepared. The two responses that earned a point were *mashing the food which has been cooked in it* and *adding tortilla or rice*. In all age groups except 9–11 months, the AIN caretakers were significantly more likely to answer this question correctly than their counterparts in control communities, as seen in Figure 11.18. Overall, 68% of AIN caretakers responded correctly compared to 49% of controls, and this difference was statistically significant at p ≤ .001.

Figure 11.18: Techniques for Preparing Thick Soup
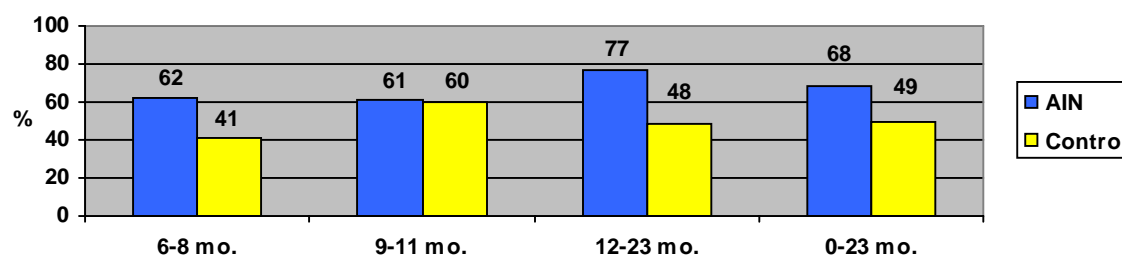
11.10.8   Capacity of a Two-Year-Old Child to Eat Half as Much as an Adult

The next question was whether caretakers believed that a two-year-old child could eat half as much as an adult. Findings between groups were similar for caretakers of all age groups, except those of children 9–11 months of age when AIN caretakers were significantly more likely to believe this than control caretakers (51% vs. 35%, p ≤ .05). When all caretakers were considered, the results were similar with 48% in AIN and 44% in control communities. Figure 11.19 presents these data.

Figure 11.19: Capacity of a Two-Year-Old Child to Eat Half as Much as an Adult
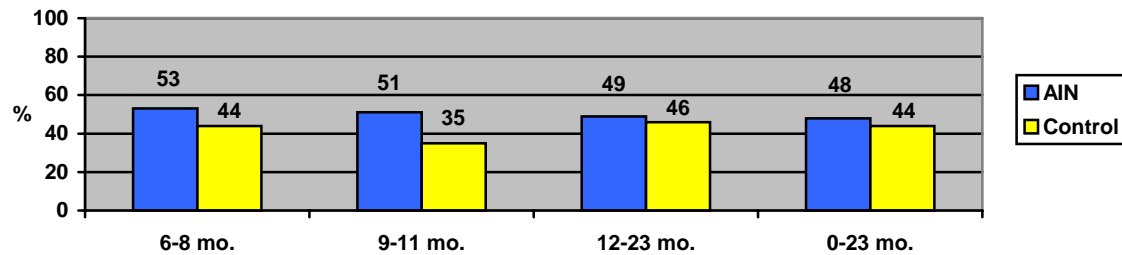
11.10.9 Techniques That Caretakers Have Used to Improve the Child's Appetite

Caretakers whose child had suffered from a period of faltering growth or loss of appetite at some point (almost 60% of those surveyed) were asked what they had done to help the child regain his or her appetite. As shown in Figure 11.20, for each age group AIN caretakers were significantly more likely to cite at least one of the following correct responses: (1) feed the child more frequently in small quantities, (2) feed the child soft food, (3) breastfeed more often, or (4) add lemon and sugar to the food. Overall, 59% of AIN caretakers, compared to 32% of controls, earned a point for this question ($p \le .001$).

Figure 11.20: Techniques Used to Improve Child's Appetite
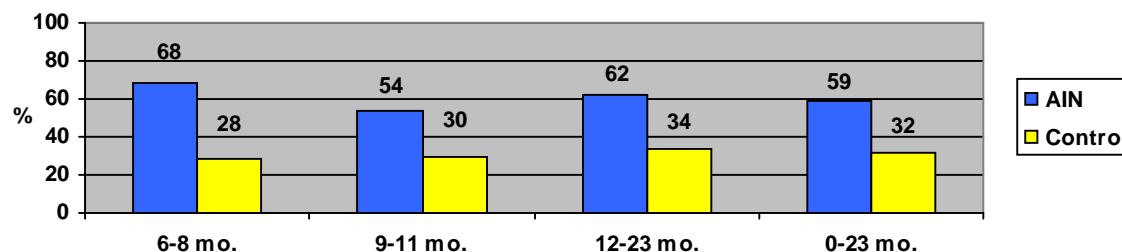
11.10.10 Summary of Findings for Knowledge, Attitude, and Practices Score at Midterm

Once the individual results for each of the nine variables were analyzed, an overall mean score at midterm was computed for each age group in AIN and control communities. The mean score of all AIN caretakers of children 0–23 months of age on all variables was 6.02 out of a possible 9 points. The mean score for all caretakers in control communities was 4.91. This difference was statistically significant at $p \le .001$. A similar pattern was also found in each of the disaggregated age groups, as seen in Figure 11.21, with AIN caretakers being significantly more likely to achieve a higher score than control caretakers in each age group except for the 9–11 month-old group.

By way of comparison, a mean score was calculated on the five variables that were included in the baseline survey. This calculation showed the mean scores at the time of the baseline to be virtually identical (3.28 for AIN and 3.25 for control) for the entire group of caretakers.

Figure 11.21: Mean Knowledge Scores, by Group and by Age, at Midterm
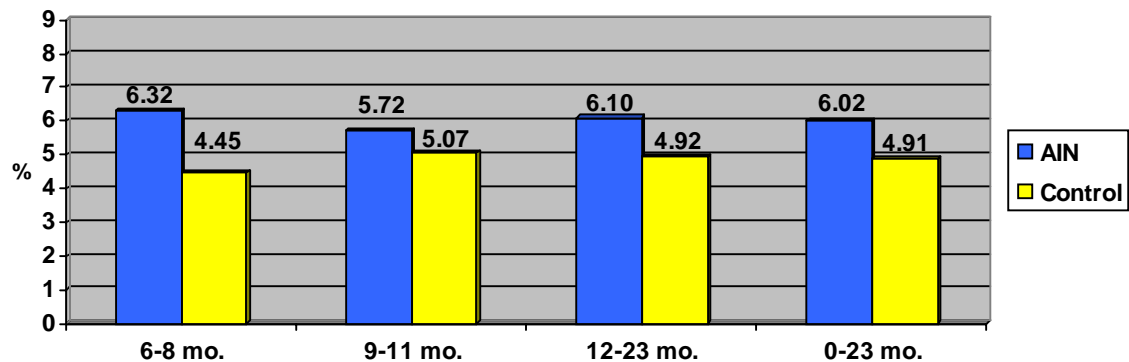
Maximum score for all age groups: 9 points

11.11 Discussion of Findings

As the midterm data demonstrate, breastfeeding was very common in both groups of communities and in all age groups, with 45% of AIN caretakers and 36% of controls continuing to breastfeed children 18–23 months of age. In both groups, caretakers who had ceased breastfeeding frequently cited concern that they were not producing sufficient milk for the child as the reason for stopping. The most common responses in both groups to the question of what a mother should do in order to produce sufficient milk were drinking lot of liquids and eating well. Although the program recognizes that drinking more fluids and eating well do not cause a woman to produce more breastmilk, AIN includes these messages in order to motivate mothers to breastfeed more often while they perceive themselves to be doing something for their own wellbeing. The midterm data show that mothers are receiving the message on breastfeeding more frequently, but other messages on feeding from both breasts and waking the child if he or she was sleeping too long were much less frequently mentioned.

The major emphasis of the breastfeeding counseling in AIN is on exclusive breastfeeding for children under six months of age, continuing breastfeeding, and reducing the use of baby bottles. The midterm results show that AIN caretakers are hearing the key counseling messages. Their knowledge and practices are improving, as demonstrated by increasing rates of exclusive breastfeeding and decreasing use of baby bottles.

AIN caretakers were shown to have significantly better knowledge at midterm on a range of other child feeding practices, including the optimal period of exclusive breastfeeding, appropriate age of introduction of complementary foods, appropriate consistency of soup, techniques for making thick soup, and ways to stimulate a child's appetite than their counterparts in control communities. The knowledge gained from key counseling messages in the AIN program is contributing to improving feeding practices as evidenced by the results

of the child feeding score. These results show that AIN caretakers have better child feeding scores on average than caretakers in control communities.

As the midterm results demonstrate, AIN communities have made substantial progress in increasing rates of exclusive breastfeeding even as rates in control communities have decreased. In AIN communities, the introduction of water, other milk, juice, tea, coffee, and complementary foods occurred at a later age than at the time of the baseline, which is consistent with the higher levels of exclusive breastfeeding. Some of the other areas that still need to be strengthened are further reducing the proportion of caretakers who give water to their infants in the first six months of life, increasing the proportion of caretakers with optimal breastfeeding and feeding practices for children 9–11 months of age, and increasing the proportion of caretakers with optimal frequency of feeding in the second year of life.

12. Conclusions and Recommendations

The results reported for the midterm survey demonstrate that the AIN community-based program is succeeding in its objective of promoting the growth of children under two years of age. The program is accomplishing this objective by integrating nutrition activities (designed to improve feeding practices and nutritional status) with prevention of illness (through vaccinations) and with care-giving and care-seeking practices (for children with diarrhea and acute respiratory illness).

The AIN program is being scaled up to national level by the Ministry of Health of Honduras and its partners. The communities chosen for early implementation were intended to be primarily disadvantaged, rural areas. It is clear from the household data presented in this report that health centers have complied with this vision of the AIN program by selecting disadvantaged communities in their areas.

For the subsample of communities used for the midterm, AIN communities were found to be disadvantaged relative to control communities with respect to living conditions, socioeconomic status, maternal education levels, and distance to health services. These disadvantages were not seen in the total sample of communities drawn at baseline. These findings will be reviewed again at the time of the final household survey when the full sample is used to assess whether the advantages found in the control communities at midterm can be confirmed. Meanwhile, the midterm results show that a program like AIN compensates for some of these disadvantages by improving knowledge, attitudes, and practices related to breastfeeding, complementary feeding, and care-giving and care-seeking during episodes of diarrhea and ARI.

The conceptual framework for the evaluation of the AIN program was summarized in Chapter 2 (Figure 2.1). This framework lays out the programmatic linkages that are being tested in this three-part evaluation that comprises baseline, midterm, and final household surveys. The midterm survey results reported here address the first four elements in this framework and allow for the analysis of their linkages:

- ➢ Program exposure – the higher the exposure, the better the program participation
- ➢ Program participation – the higher the participation, the more knowledge and attitudes improve
- ➢ Improved knowledge and attitudes – the better the knowledge and attitudes, the more practices improve
- ➢ Improved practices

The fifth step—improved nutrition and health—will be analyzed in the final evaluation planned for June 2002.

In terms of *program exposure* and *participation*, the midterm results show that 96% of the caretakers in AIN communities are aware of the program in their community. These results

also demonstrate that the program has achieved a high level of coverage with 92% of the children under two years residing in AIN communities enrolled in the program. Of the children enrolled in AIN, 69% were enrolled by the age of three months, ensuring that these children are participating in the program early in life. Although monthly participation in the program was found to have increased significantly since baseline (to 70% of children three months of age or older attending three monthly growth monitoring sessions in the three months prior to the midterm survey), the program has not yet achieved its goal of 100% of children in the community being weighed each month.

In terms of improved *knowledge* and *attitudes*, AIN caretakers at midterm had higher levels of knowledge in some key areas such as understanding the link between health and growth, knowing danger signs associated with common childhood illnesses, knowing how to produce sufficient breastmilk, and knowing that six months is the appropriate age to begin complementary feeding. For signs of growth, AIN caretakers were significantly more likely than controls to mention the child gaining weight as a sign of good growth and the child being thin as a sign of poor growth. Caretakers in control communities were significantly more likely than caretakers in AIN to mention the child being healthy as a sign of good growth, but the AIN rate had increased significantly since baseline. AIN and control caretakers were equally likely to mention illness as a sign of poor growth, but again, the AIN rate was significantly higher at midterm than at baseline.

With regard to danger signs, AIN caretakers were significantly more likely to know two or more signs of dehydration and at least one danger sign for ARI than caretakers in control communities. The results for general danger signs were similar between groups at midterm although AIN caretakers had improved significantly more than controls between baseline and midterm.

For breastfeeding and complementary feeding knowledge and attitudes, AIN caretakers were significantly more likely than controls to know that improved growth is a benefit of exclusive breastfeeding; to cite six months as the appropriate time to transition from exclusive breastfeeding to the introduction of water, other liquids, and complementary foods; to know that frequent breastfeeding is a technique for stimulating the production of breastmilk; to consider thick soup an appropriate food for young children and to know how to prepare it; to believe that a two-year-old child is capable of consuming half as much food as an adult; and to know ways to stimulate a child's appetite. AIN caretakers were similar to controls in knowing the appropriate consistency of a child's first complementary foods and the best age to feed a child the same diet as the rest of the family. Overall, the mean score on the index of knowledge and attitude variables was significantly higher for AIN caretakers than controls at midterm.

Finally, in the area of *practices*, AIN caretakers have improved practices for the prevention of illness, care-giving during diarrhea, breastfeeding, and complementary feeding. In the area of prevention of illness, children in AIN communities were significantly more likely to receiv iron and vitamin A supplementation than their counterparts in control communities. Children in AIN communities were also significantly more likely to finish the three-part series of DPT and polio vaccinations, to be immunized against measles, and to complete their vaccinations.

In fact, the high level of participation and frequent contacts with caretakers led to significantly better coverage in AIN communities over controls for all vaccines except BCG. Although immunization coverage statistics for Honduras are already high, the AIN strategy appears to be a good way to ensure that the small proportion of children who are missing from routine services receive their vaccinations.

In the area of care-giving during illness, AIN caretakers were significantly more likely than controls to give oral rehydration therapy to children with diarrhea and to offer both fluids and food during their illness. The vast majority of AIN caretakers also maintained the frequency of breastfeeding during diarrhea and ARI.

In terms of improved breastfeeding and feeding practices, AIN caretakers had a significantly higher rate of exclusive breastfeeding at midterm than caretakers in control communities. Other findings—such as the significantly lower proportions of children in AIN communities compared to controls who were introduced to water, other types of milk, juice, tea, coffee, and solid foods by the age of six months—were consistent with the higher proportion being exclusively breastfed until that age. The use of baby bottles was significantly lower in AIN communities. The score on the child feeding index, which includes breastfeeding and complimentary feeding, was significantly higher for AIN communities than controls for children ages 6–12 months and 12–23 months.

Practices that were not significantly different between AIN communities and controls at midterm include feeding and care-seeking during episodes of diarrhea and ARI. With regards to feeding practices, the proportion of AIN caretakers who maintained or increased feeding during episodes of diarrhea was similar to the proportion of caretakers in control communities and had not improved from the baseline rate. During episodes of ARI, there was no difference between caretakers in AIN or control groups who suspended food. The proportion of caretakers seeking care from a *monitora* or health provider for diarrhea in AIN communities was higher than in control communities, while for ARI, the proportion was lower in AIN communities than in controls. Although these differences in the proportion of caretakers seeking care were not statistically significant, the care-seeking findings demonstrate that AIN *monitoras* are recognized by their communities as a resource, particularly with regard to diarrheal diseases.

In general, the midterm evaluation findings show that the AIN program is being implemented as expected with good coverage among children under two in the communities that are participating in AIN and with regular contact with the caretakers of these children at monthly weighing sessions. Specific counseling tailored to the child's nutrition and health status is being provided at monthly sessions, and improvements in key practices, such as exclusive breastfeeding for children under 6 months of age and oral rehydration therapy for children with diarrheal illness, are being successfully negotiated.

In addition to highlighting some of the accomplishments of the AIN program to date, the midterm results also indicate some aspects of the program that should be strengthened. One such aspect is the early enrollment of children in the program through home visits to newborns. A second area to emphasize is the active referral of newborns for vaccination with

BCG, which was the only vaccine with lower coverage in AIN communities than in controls, which may be due to the lower prevalence of institutional births.

A third area to be strengthened is the intensity of participation in monthly weighing sessions since this is a key factor in the potential impact of the program. More follow-up through home visits is needed for children who do not attend the monthly weighing sessions.

A fourth finding is that the level of recognition of the counseling cards is less than expected, given that these tools are designed to be used with each caretaker at each weighing session. Use of the counseling cards should be strengthened in order to negotiate improved practices with caretakers more effectively.

These midterm findings demonstrate the progress being made in AIN communities by comparing baseline and midterm data. Final household survey data is being collected in 2002 to complete this three-stage evaluation. In addition to providing data to review the progress and trends noted in the midterm survey, the final household survey will also allow the program to assess its impact in improved nutritional status and reduced duration and severity of illnesses in children under two years of age.

Annex A
Public Health Sector Organization in Honduras

National level
Ministry of Health (*Secretaría de Salud)*

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8 Health Regions + Tegucigalpa
Regional Director *(Director Regional)*
Each health region supervises about 4 health areas.

Health Areas
Area Head *(Jefe de área)*
Staffed by doctor and registered nurses
(*enfermeras graduadas*)
Each health area supervises about 4-6 sectors.

Sector
Staffed by professional nurses (*enfermeras profesionales sin licencia*) and sector health promoters (*promotores*) assigned to particular *UPSs*
A sector may have as many as 12 *UPSs*.

CESAMO / CESAR
1250 Health Provider Units (*Unidades Proveedoras de Salud = UPS)*
CESAMOs have a doctor on staff. CESARs are staffed by nurse auxiliaries (*enfermeras auxiliaries)* and may have a *promotor* and specialized nurses (*enfermeras vectoriales*) for particular disease programs such as Chagas or malaria

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Communities
AIN Monitoras
(and other volunteers depending on community programs)

Annex B
Health Centers (UPS) Participating in Baseline and Midterm Surveys

UPS Participating in Both Baseline and Midterm	UPS Not Participating in Midterm AND and Reason for Exclusion
METRO AREA (SAN PEDRO SULA)	
Chamalecón	Buenos Aires *(< 15 children < 2)*
Rivera Hernández	
Miguel Paz Barahona	
Armenta	
CHOLOMA, LIMA, ETC.	
Colonia López Arellano	Choloma *(< 15 children < 2)*
La Lima	Quebrada Seca *(< 15 children < 2)*
Nuevo Chamalecón	Villa Nueva *(< 15 children < 2)*
Dos Caminos	
Milagro	
San Isidro	
PUERTO CORTÉS	
Baracoa	Bajamar *(< 15 children < 2)*
Calán	Omoa *(< 15 children < 2)*
Caoba	Puerto Cortés *(< 15 children < 2)*
Tegucigalpita	Paraíso *(no AIN program)*
Cuyamelito	
SIGUATEPEQUE	
Jardines	El Palmital *(< 15 children < 2)*
Río Bonito	Agua Dulcita *(< 15 children < 2)*
Guarajau	
Siguatepeque	
El Parnazo	
San José de Pane	
Las Delicias	
SANTA CRUZ DE YOJOA	
Santa Cruz de Yojoa (2 UPS pairs)	Peña Blanca *(< 15 children < 2)*
San Isidro	El Llano *(< 15 children < 2)*
Las Vegas	La Garroba *(destroyed by Hurricane Mitch)*
Nueva Granada	San Antonio *(no AIN program)*
LA PAZ	
San Nicolás	Playón *(< 15 children < 2)*
Flores	Portillo de la Mora *(< 15 children < 2)*
Lamani	Puringla *(< 15 children < 2)*
San Sebstián	Tutule *(< 15 children < 2)*
	La Paz *(no AIN program)*

Annex C
UPS and AIN / Control Community Pairs Included in the Midterm Survey

Of the 100 communities included in the baseline sample, 15 AIN-control pairs did not meet the criterion for inclusion in the sample at midterm. Since the AIN and control communities are matched, failure to meet this criterion for either one of the communities resulted in the entire pair being excluded from the midterm. In preparation for the survey, it was found that initial assumptions of which communities would implement AIN and which would not had changed. As a result, three communities defined as AIN in the baseline had never initiated the program. These communities were removed from the sample along with their matched controls. Hurricane Mitch, which struck Honduras in October 1998, completely destroyed one AIN community, eliminating that paired set as well. In total, 19 pairs of AIN and control communities were eliminated from the midterm survey leaving a total of 31 paired communities available for sampling for the midterm survey.

Several other changes in communities during the baseline and midterm necessitated adjustments in the sample design such as one case in which a community designated at baseline as "AIN" did not implement the program, while the designated "control" community did. In this instance, the communities were reclassified into the appropriate groups. Furthermore, in three cases, a non-governmental organization (NGO) had initiated an AIN-type program in a community that was designated as a "control" at the time of the baseline. In these cases, the survey planning team sought to identify other communities to serve as substitute controls so that these pairs could be retained in the midterm survey. Finally, the Dos Caminos UPS and its corresponding pair of communities were reclassified to another department. The AIN community was still included in the midterm survey as part of the coverage area of another health center, the Venado UPS. The following table summarizes these factors.

Health Areas with their UPS	AIN Communities	Control Communities
Metro Area (San Pedro Sula)		
Chamelecón	La Fortaleza	San Jorge
Rivera Hernández	Carrizal	Los Laureles
Miguel Paz Barahona	Pueblo Nuevo/La Cumbre	Aldea San Isidro
Armenta	Colonia las Brisas	Armenta
Area 1: Choloma / Lima		
Colonia López Arellano	Colonia las Colinas	La Unidad
La Lima	Flores de Oriente	Filadelfia
Nuevo Chamelecón	Brisas del Rosario	Villas del Río
Venado *(formerly in Dos Caminos)*	Chasnigua	El Venado
Milagro	Nueva Jerusalen / Colonia 15 de Junio	Los Angeles
San Isidro	Los Altos	San Isidro

Health Areas with their UPS	AIN Communities	Control Communities
Puerto Cortés		
Baracoa	Las Cruces	El Puentón
Calan	Kilometro 6	Calan
Caoba	Cedros	Paleto
Tegucigalpita	Río Chiquito	Barrio La Escuela
Cuyamelito	San Carlos	Corinto
Siguatepeque		
Jardines	Laguna Seca	Diviso *(substitute for Varsovia community used in baseline)*
Río Bonito	Buena Vista	Río Bonito (*substitute sought but not found)*
Guarajau	Santa Cruz del Dulce	Lagunas (*substitute sought but not found)*
Siguatepeque	San Ignacio	El Rincón
El Parnazo	Las Pavas	Barrio Buenos Aires
San José de Pane	Guachipilín	San José de Pane
Las Delicias	Santa Rosita *(classified as control in original baseline; reclassified in correct group for revised baseline calculations)*	Los Llanos *(classified as AIN in original baseline; reclassified in correct group for revised baseline calculations for comparison to midterm)*
Santa Cruz de Yojoa		
Santa Cruz de Yojoa	Pueblo Quemado	San Antonio
Santa Cruz de Yojoa	Achiotal	Las Marías
San Isidro	Casas Viejas	San Bartolo
Las Vegas	Lempira	Quelepa
Nueva Granada	El Tule	Santa Rita
La Paz		
San Nicolás	San Nicolás	Palmerola
Flores	Flores	Las Mercedes
Lamani	Barrio Juan de la C. Avelar	Los Pintores
San Sebastián	Isla Dos + Agua Salada	Barrio Arriba

Annex D
Baseline Sample Size, by Health Area

Health area	AIN		Control		Total	
	% of total	Number of households in area	% of total	Number of households in area	% of total	Number of households in area
Metro San Pedro Sula	12.4	59	13.1	61	12.8	120
Choloma/Lima	20.3	96	18.5	86	19.4	182
Puerto Cortés	16.5	78	16.6	77	16.5	155
Siguatepeque	22.2	105	22.6	105	22.4	210
Santa Cruz de Yojoa	15.8	75	16.2	75	16.0	150
La Paz	12.9	61	12.9	60	12.9	121
Total number of households	474		464		938	

Annex E
Characteristics of Households Related to Water, Sanitation, Housing, and Amenities at Baseline

	AIN		CONTROL		TOTAL	
	%	Number of Households	%	Number of Households	%	Number of Households
Principal source of water						
Tap inside household	12.4		14.0		13.2	
Tap outside household but on property	63.3		63.6		63.4	
Tap off property < 100 m.	6.3		9.9		8.1	
Tap off property > 100 m.	2.3		3.7		3.0	
Natural source (river, lake, etc.)	10.3	474	2.6	464	6.5	938
Well with bucket	0.8		0.2		0.5	
Well with pump (electric or manual)	3.4		4.5		3.9	
Purchased water	0		1.1		0.5	
Protected water source	0.4		0.4		0.4	
Other	0.6		0		0.3	
Type of drinking water						
Electro-purified	4.4		6.7		5.5	
Chlorinated	12.3		12.7		12.5	
Boiled	15.2	473	14.7	464	14.9	937
Consumed straight from source	67.9		65.7		66.8	
Other	0.2		0.2		0.2	
Type of sanitation						
Flush toilet	9.3		10.3		9.8	
Hydraulic latrine / covered latrine	30.6		35.8		33.2	
Pit toilet	29.7	474	27.4	464	28.6	938
None	30.2		26.1		28.1	
Other	0.2		0.4		0.3	
Number of rooms in the household [†]						
One room	22.6		24.4		23.5	
Two rooms	38.2		28.7		33.5	
Three rooms	18.1	474	22.4	464	20.3	938
Four rooms	12.0		14.7		13.3	
Five or more rooms	9.1		9.9		9.5	

	AIN		CONTROL		TOTAL	
	%	**Number of Households**	**%**	**Number of Households**	**%**	**Number of Households**
Number of rooms used as bedrooms						
One room	71.9		66.8		69.4	
Two rooms	19.8	474	23.1	464	21.4	938
Three or more rooms	8.2		10.1		9.2	
Separate room is used for a kitchen						
Yes	69.4	474	66.4	464	67.9	938
No	30.6		33.6		32.1	
Type of fuel used in the kitchen [†]						
Firewood	80.6		79.5		80.1	
Liquid gas / kerosene	11.0	474	9.1	464	10.0	938
Propane gas	6.3		5.4		5.9	
Electricity	2.1		6.0		4.1	
Households that have the following items						
Electricity	41.8 [†††]		60.1		50.9	
Radio	74.3		75.0		74.6	
Television	39.7 [†]	474	46.8	464	43.2	938
Refrigerator	14.6		17.5		16.0	
Telephone	0		1.9		1.0	
Motor vehicle	7.4		5.8		6.6	
Predominate material in flooring						
Dirt	45.1		41.2		43.2	
Wood	1.1		1.7		1.4	
Cement	48.1	474	46.8	464	47.4	938
Clay Tile	0.2		0.9		0.5	
Ceramic tile	5.5		9.5		7.5	

† $p \leq .05$ (based on Pearson Chi-Square test)
††† $p \leq .001$ (based on Pearson Chi-Square test)

Annex F
Calculation of Socioeconomic Status

The following calculations are based on the plan outlined in Annex D of *the Encuesta Nacional de Epidemiología y Salud Familiar*, *1996.*

Variable	Responses which receive credit toward SES score	Points assigned for each affirmative response
Qn. 1: Source of water	Tap inside household *or* Tap outside household, but on property	1
Qn. 6: Cooking fuel	Electricity *or* Liquid gas / kerosene *or* Propane	1
Qn. 7: Type of sanitary service	Flush toilet *or* Hydraulic / covered latrine	1
Qn. 8: Presence of selected amenities and appliances	Electricity	1
	Vehicle	1
	Telephone	1
	Refrigerator	1
	Television	1
	Radio	1
Total points possible		**9**
Calculation of SES	**High**	**7–9 points**
	Medium	**3–6 points**
	Low	**0–2 points**

Annex G
Caretaker Characteristics

| | AIN | | | | Control | | | |
| | Baseline | | Midterm | | Baseline | | Midterm | |
	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households
Principal caregiver								
Mother	96.6		95.8		96.3		94.8	
Grandmother	2.3		2.9		3.4		4.2	
Sister	0		0.3		0		0	
Aunt	0	474	0.7	596	0	464	0.3	572
Other Relative	0.4		0.2		0.2		0.7	
Other Non-Relative	0.6		0.2		0		0	
Mother's age								
<20 years	18.8		20.3		15.7		17.7	
20–24 years	29.9		29.2		34.5		37.2	
25–29 years	19.0		21.0		22.6		19.3	
30–34 years	18.3	458	13.3	571	14.5	447	12.9	543
35–39 years	10.5		11.2		8.1		7.2	
40–44 years	3.1		4.7		4.5		5.0	
45+ years	0.4		0.2		0.2		0.7	
Mother's education level								
None	11.8		11.6		13.2		10.7	
Primary	81.0	458	82.7	571	77.0	447	77.0	543
Secondary	7.2		5.6		8.9		11.6	
University	0		0.2		0.9		0.7	
Whether mother works for pay								
Yes	19.4	458	15.4	571	19.2	447	23.9	543
No	80.6		84.6		80.8		76.1	
Where mother works								
At home	34.8		30.7		37.2		33.8	
Outside the home	65.2	89	67.0	88	61.6	86	66.2	130
Both	0		2.3		1.2		0	
Whether husband or other companion habitually lives in house								
Yes	84.3	458	81.4	571	82.8	447	79.3	542
No	15.7		18.6		17.2		20.7	

	AIN				Control			
	Baseline		Midterm		Baseline		Midterm	
	%	Number of Households	%	Number of Households	%	Number of Households	%	Number of Households
Total live births the respondent has had								
1	19.7		23.8		23.7		24.7	
2	19.7		20.1		17.2		22.8	
3	16.2	458	14.4	571	19.0	447	19.5	543
4	12.2		12.6		14.1		10.5	
5	9.6		10.5		7.4		6.1	
6 or >	22.7		18.6		18.6		16.4	
Whether any children born alive have died before reaching 4 years of age								
Yes	15.7	458	18.2	571	14.3	447	13.4	543
No	84.3		81.8		85.7		86.6	
Number of children that have died before reaching 4 years of age								
1	80.6		76.0		71.9		82.2	
2	9.7	72	14.4	104	17.2	64	9.6	73
3	6.9		5.8		9.4		5.5	
4 or >	2.8		3.8		1.6		2.7	

Annex H
Vaccinations by Antigen and Source of Information at Baseline

Source of information	AIN Communities									
	Proportion of children 12–23 mo. who received the vaccination listed below:									
	BCG	DPT			Polio			Measles	Fully immunized children	Number of children
		1	2	3	1	2	3			
Data from vaccination card alone	97.2	97.8	97.2	95.6	97.8	97.2	95.6	90.1	86.2	181
Data from recall alone	100.0	95.0	95.0	70.0	90.0	85.0	80.0	65.0	45.0	20
Combined total from either source	97.5	97.5	97.0	93.0	97.0	96.0	94.0	87.6	82.1	201
Vaccinated by 12 mo. of age	93.1	94.2	93.7	89.3	94.8	92.7	90.2	N/A [20]	N/A [20]	201
	Control Communities									
	Proportion of children 12–23 mo. who received the vaccination listed below:									
Source of information	BCG	DPT			Polio			Measles	Fully immunized children	Number of children
		1	2	3	1	2	3			
Data from vaccination card alone	96.2	97.8	96.8	94.6	98.4	96.8	95.1	86.5	81.1	185
Data from recall alone	89.7	79.2	68.9	51.7	82.7	72.4	62.1	82.8	48.3	29
Combined total from either source	95.3	95.3	93.0	88.8	96.3	93.5	90.7	86.0	76.6	214
Vaccinated by 12 mo. of age	92.1	94.8	90.9	80.7	95.7	91.4	81.4	N/A	N/A	214

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[20] Measles vaccine is given to children as part of MMR at 12 months, so this calculation is not performed for children vaccinated with measles or fully immunized children.

Annex I
Activities at Most Recent Growth Monitoring Session

Activities	AIN							
	Baseline				Midterm			
	% mentioned activity spontaneously	% mentioned activity when prompted	% total	Number of women	% mentioning activity spontaneously	% mentioned activity when prompted	% total	Number of women
Weighed the child §§	72.7	23.8	96.5	143	86.5	13.2	99.7 †††	547
Told caretaker how much the child weighed §	12.6	67.1	79.7		22.1	70.7	92.8 †††	
Told the caretaker if the weight was adequate §	14.7	49.0	63.7		24.5	60.9	85.4	
Discussed breastfeeding §§§	6.3	37.1	43.4		15.5	53.4	68.9 †††	
Explained how to feed the child §§§	14.7	45.5	60.2		31.6	48.4	80.0 †††	
If the child was sick with diarrhea or respiratory infection, told caretaker how to care for the child §§§	4.9	30.1	35.0		9.3	54.1	63.4 †††	
Discussed hygiene §§	3.5	42.7	46.2		6.2	59.4	65.6 †††	
Gave caretaker a referral	0	1.4	1.4		0.5	15.9	16.4 †	
Discussed iron					1.6	59.6	61.2 †††	
Discussed vitamin A					0.7	58.0	58.7 †††	
Discussed family planning					1.5	53.0	54.5 †	
Discussed vaccinations					1.3	65.6	66.9 †††	

Note: Responses are not mutually exclusive.

Shaded responses were not included in the baseline questionnaire.

†   p ≤ .05 (based on Pearson Chi-Square test)

†††   p ≤ .001 (based on Pearson Chi-Square test)

§   p ≤ .05 (based on Logistic Regression analysis test)

§§   p ≤ .01 (based on Logistic Regression analysis test)

§§§   p ≤ .001 (based on Logistic Regression analysis test)

| Activities | Control | | | | | | | |
| | Baseline | | | | Midterm | | | |
	% mentioned activity spontaneously	% mentioned activity when prompted	% total	Number of women	% mentioned activity spontaneously	% mentioned activity when prompted	% total	Number of women
Weighed the child	67.3	30.8	98.1		83.5	11.6	95.1	
Told caretaker how much the child weighed	19.2	57.7	76.9		23.1	58.7	81.8	
Told the caretaker if the weight was adequate	18.3	53.8	72.1		15.7	63.6	79.3	
Discussed breastfeeding	5.8	45.2	51.0		6.6	37.2	43.8	
Explained how to feed the child	14.4	49.0	63.4	104	15.7	35.5	51.2	121
If the child was sick with diarrhea or respiratory infection, told caretaker how to care for the child	4.8	37.5	42.3		2.5	32.2	34.7	
Discussed hygiene	4.8	46.2	51.0		1.7	46.3	48.0	
Gave caretaker a referral	0	0	0		0	6.6	6.6	
Discussed iron					2.5	28.9	31.4	
Discussed vitamin A					2.5	28.9	31.4	
Discussed family planning					2.5	38.8	41.3	
Discussed vaccinations					6.6	51.2	57.8	

Note: Responses are not mutually exclusive.
     Shaded responses were not included in the baseline questionnaire.

Annex J: Sample AIN Growth Card

Annex K: Sample AIN Counseling Card (two-sided)

8	6-8 meses
	CRECIMIENTO ADECUADO

1. **FELICITE A LA MADRE** porque su niño o niña está creciendo bien. **ANÍMELA** a seguirlo cuidando como hasta ahora.

2. **PREGUNTE A LA MADRE:**
   * ¿Qué comió ayer su niño o niña?
   * ¿Pecho?
   * ¿Otros alimentos?
   * ¿Cuántas veces al día?
   * ¿Da sopas?
   * ¿Utiliza pepe?

3. **LA MADRE DICE QUE:** — **RECOMIENDE Y DISCUTA**

DOY SÓLO PECHO
* Continúe dando pecho día y noche por lo menos 6 - 8 veces.
* Empiece a dar alimentos suaves en forma progresiva, hasta llegar a darle 3 veces al día cuando cumpla los 8 meses.
* Dele alimentos bien deshechos como: papa o plátano cocido, arroz, tortilla, frijol molido o colado, atol de masa.
* Puede suavizar los alimentos con leche materna.

DOY PECHO MÁS OTROS ALIMENTOS
* Sígale dando pecho día y noche por lo menos 6 - 8 veces.
* Prepare la comida como un puré de plátano o papa con un poco de su leche materna para suavizar.
* Dele de comer al principio 1-2 veces por día. A los 8 meses debe recibir 3 comidas.

NO DOY PECHO, DOY OTROS ALIMENTOS
* Dele de comer el tipo y la cantidad de comida que necesite siempre en forma de puré como papa o plátano cocido, frijol molido o colado, atol de masa.
* Dele de comer 3 veces al día al principio aumentando a 4 veces al día cuando el niño tenga 7-8 meses.

DOY SOPAS O ALIMENTOS HECHOS CON MUCHA AGUA
* Las comidas no deben ser aguadas, porque no sustentan al niño.
* Las sopas debe prepararlas bien espesas para que lo sustenten más. El alimento no está en el caldo. La sopa espesa se prepara deshaciendo el alimento que se ha cocido en ella, como frijol, papa, plátano o arroz.

DOY LA LECHE U OTROS LÍQUIDOS EN PEPE
* Dele los líquidos al niño o niña en taza o en vaso, porque estos son más fáciles de lavar que los pepes, y hay menos peligro de enfermarse.

4. **REALICE UN COMPROMISO CON LA MADRE:** De lo que hemos hablado diga 1 ó 2 recomendaciones que usted puede realizar en su casa para que su niño o niña crezca bien.

5. **RECUERDE A LA MADRE:** Lo siguiente.

SOPA ESPESA

6 - 7 MESES

8 MESES

Annex L
Sources of Care for Diarrhea and Order Consulted

AIN					
Source of care	**First source consulted (%)**	**Second source consulted (%)**	**Third source consulted (%)**	**Total who sought care from this source (%)**	**Number of caretakers who sought care from any source for child with diarrhea**
Friend / neighbor / relative	15.3	4.2	0	19.5	
Traditional healer	1.4	0	0	1.4	
Litrosol distributor	2.8	0	0	2.8	
AIN *Monitora* †††	33.3	4.2	0	37.5	
CESAR †	23.6	13.9	0	37.5	
CESAMO	8.3	5.6	0	13.9	72
Private doctor / clinic	8.3	6.9	0	15.2	
Hospital	1.4	0	1.4	2.8	
Pharmacy	2.8	0	0	2.8	
Other	2.8	1.4	0	4.2	
Control					
Source of care	**First source consulted (%)**	**Second source consulted (%)**	**Third source consulted (%)**	**Total who sought care from this source (%)**	**Number of caretakers who sought care from any source for child with diarrhea**
Friend / neighbor / relative	23.6	1.8	0	25.4	
Traditional healer	5.5	0	1.8	7.3	
Litrosol distributor	0	0	0	0	
AIN *Monitora*	0	0	0	0	
CESAR	32.7	1.8	0	34.5	
CESAMO	5.5	5.5	0	11.0	55
Private doctor / clinic	18.2	3.6	0	21.8	
Hospital	1.8	0	0	1.8	
Pharmacy	9.1	1.8	0	10.9	
Other	3.6	3.6	0	7.2	

†   p ≤ .05 (based on Pearson Chi-Square test)
†††   p ≤ .001 (based on Pearson Chi-Square test)

Annex M
Sources of Care for ARI and Order Consulted

AIN					
Source of care	First source consulted (%)	Second source consulted (%)	Third source consulted (%)	Total who sought care from this source (%)	Number of caretakers who sought care from any source for child with ARI
Friend / neighbor / relative	14.3	3.6	0	17.9	
Traditional healer	1.8	0	1.8	3.6	
Pneumonia volunteer	3.6	0	0	3.6	
AIN *Monitora* [†††]	14.3	5.4	0	19.7	
Other community volunteer	1.8	0	0	1.8	
CESAR	28.6	8.9	1.8	39.3	56
CESAMO	12.5	1.8	1.8	16.1	
Private doctor / clinic	19.6	7.1	0	26.7	
Hospital	1.8	1.8	1.8	5.4	
Pharmacy	1.8	0	0	1.8	
Control					
Source of care	First source consulted (%)	Second source consulted (%)	Third source consulted (%)	Total who sought care from this source (%)	Number of caretakers who sought care from any source for child with ARI
Friend / neighbor / relative	15.0	1.7	1.7	18.4	
Traditional healer	0	0	0	0	
Pneumonia volunteer	0	0	0	0	
AIN *Monitora* [†††]	0	0	0	0	
Other community volunteer	3.3	0	0	3.3	
CESAR	33.3	1.7	0	35.0	60 [21]
CESAMO	20.0	6.7	0	26.7	
Private doctor / clinic	21.7	3.3	0	25.0	
Hospital	5.0	3.3	0	8.3	
Pharmacy	1.7	0	1.7	3.4	

††† p ≤ .001 (based on Pearson Chi-Square test)

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[21] This figure excludes one caretaker who reported having sought care but did not report the source.

Annex N
Current Breastfeeding Status at Midterm, by Child's Age

Age in months	AIN		Control	
	% currently breastfeeding	Number of children in this age range	% currently breastfeeding	Number of children in this age range
< 1 mo.	100.0	17	100.0	26
1 month	100.0	28	90.9	22
2 months	96.0	25	96.0	25
3 months	90.0	30	84.2	19
4 months	72.7	22	93.3	30
5 months	85.7	28	86.4	22
6 months	95.8	24	82.8	29
7 months	83.3	24	91.4	35
8–9 months	83.1	59	74.2	66
10–11 months	72.0	75	69.4	49
12–13 months	86.4 [††]	66	63.3	60
14–15 months	63.8	47	63.6	44
16–17 months	63.0	46	58.5	41
18–19 months	43.3	30	54.8	42
20–21 months	41.2	34	17.6	34
22–23 months	48.8	41	28.6	28

†† $p \leq .01$ (based on Pearson Chi-Square test)

Annex O
Breastfeeding Frequency for Different Age Groups in AIN Communities at Midterm, by Day, Night, and 24-hour Period

Frequency during day or night for respondents who are currently breastfeeding	Daytime (6 a.m. – 6 p.m.)		Night (6 p.m. – 6 a.m.)		Frequency during 24-hour period for respondents who are currently breastfeeding	Total for 24-hour period	
	%	Number of women	%	Number of women		%	Number of women
For age group 0–5 months							
0	1.5		0.7		0	0	
1–2	1.5		14.7		1–4	2.9	
3–4	11.8		30.1		5–8	16.9	
5–6	21.3		12.5		9–12	19.9	
7–8	8.1		2.2		13–16	8.1	
9–10	15.4	136	7.4	136	17–20	6.6	136
11–12	2.2		2.2		>20	8.8	
> 12	7.4		5.9				
Doesn't remember / No specific frequency given	30.8		24.3		Doesn't remember / No specific frequency given	36.8	
For age group 6–8 months							
0	3.1		0		0	0	
1–2	4.6		7.7		1–4	1.5	
3–4	7.7		38.5		5–8	13.8	
5–6	10.8		12.3		9–12	12.3	
7–8	9.2		7.7		13–16	23.1	
9–10	23.1	65	1.5	65	17–20	7.7	65
11–12	7.7		3.1		>20	3.1	
> 12	4.6		3.1				
Doesn't remember / No specific frequency given	29.2		26.1		Doesn't remember / No specific frequency given	38.5	

Frequency during day or night for respondents who are currently breastfeeding	Daytime (6 a.m. – 6 p.m.)		Night (6 p.m. – 6 a.m.)		Frequency during 24-hour period for respondents who are currently breastfeeding	Total for 24-hour period	
	%	Number of women	%	Number of women		%	Number of women
For age group 9–11 months							
0	1.2		1.2		0	0	
1–2	6.2		12.3		1–4	3.7	
3–4	8.6		28.4		5–8	14.8	
5–6	13.6		9.9		9–12	16.0	
7–8	19.8		7.4		13–16	12.3	
9–10	8.6	81	6.2	81	17–20	3.7	81
11–12	3.7		1.2		>20	4.9	
> 12	3.7		1.2				
Doesn't remember / No specific frequency given	34.6		32.2		Doesn't remember / No specific frequency given	44.6	
For age group 12–23 months							
0	3.1		0		0	0	
1–2	8.0		16.0		1–4	9.8	
3–4	23.9		34.4		5–8	21.5	
5–6	20.9		16.6		9–12	19.0	
7–8	9.8		3.7		13–16	8.6	
9–10	9.8	163	1.8	163	17–20	4.3	163
11–12	1.8		1.2		>20	2.5	
> 12	3.1		1.2				
Doesn't remember / No specific frequency given	19.6		25.1		Doesn't remember / No specific frequency given	34.3	

Annex P
Breastfeeding Frequency for Different Age Groups in Control Communities at Midterm, by Day, Night, and 24-hour Period

Control							
Frequency during day or night for respondents who are currently breastfeeding	Daytime (6 a.m. – 6 p.m.)		Night (6 p.m. – 6 a.m.)		Frequency during 24-hour period for respondents who are currently breastfeeding	Total for 24-hour period	
	%	Number of women	%	Number of women		%	Number of women
For age group 0–5 months							
0	3.8		0.8		0	0	
1–2	6.0		15.8		1–4	3.0	
3–4	15.8		36.1		5–8	23.3	
5–6	19.5		12.0		9–12	16.5	
7–8	12.0		3.8		13–16	11.3	
9–10	10.5	133	3.8	133	17–20	5.3	133
11–12	0.8		1.5		>20	3.8	
> 12	5.3		1.5				
Doesn't remember / No specific frequency given	26.3		24.8		Doesn't remember / No specific frequency given	36.8	
For age group 6–8 months							
0	7.9		0		0	0	
1–2	2.6		15.8		1–4	5.3	
3–4	11.8		34.2		5–8	17.1	
5–6	25.0		13.2		9–12	19.7	
7–8	5.3		5.3		13–16	10.5	
9–10	9.2	76	2.6	76	17–20	2.6	76
11–12	2.6		0		>20	3.9	
> 12	6.6		0				
Doesn't remember / No specific frequency given	28.9		29.0		Doesn't remember / No specific frequency given	40.8	

Frequency during day or night for respondents who are currently breastfeeding	Daytime (6 a.m. – 6 p.m.)		Night (6 p.m. – 6 a.m.)		Frequency during 24-hour period for respondents who are currently breastfeeding	Total for 24-hour period	
	%	Number of women	%	Number of women		%	Number of women
Control							
For age group 9–11 months							
0	4.8		0		0	0	
1–2	9.5		12.7		1–4	6.3	
3–4	14.3		39.7		5–8	17.5	
5–6	19.0		15.9		9–12	27.0	
7–8	11.1		6.3		13–16	11.1	
9–10	11.1	63	3.2	63	17–20	6.3	63
11–12	6.3		1.6		>20	4.8	
> 12	1.6		3.2				
Doesn't remember / No specific frequency given	22.3		17.4		Doesn't remember / No specific frequency given	27.0	
For age group 12–23 months							
0	1.6		0		0	0	
1–2	9.4		22.8		1–4	4.7	
3–4	27.6		36.2		5–8	38.6	
5–6	27.6		14.2		9–12	19.7	
7–8	8.7		3.9		13–16	6.3	
9–10	5.5	127	1.6	127	17–20	0	127
11–12	0		0		>20	3.1	
> 12	3.1		0				
Doesn't remember / No specific frequency given	16.5		21.3		Doesn't remember / No specific frequency given	27.6	

Annex Q
Breastfeeding and Complementary Feeding at Baseline

Age of child	AIN				
	% giving only breastmilk	% giving breastmilk and other liquids	% giving breastmilk and food	% not giving breastmilk, just food	Number of children in this age range
<1 month	46.2	50.0	3.8	0	26
1 month	33.3	66.7	0	0	21
2 months	30.8	50.0	7.7	11.5	26
3 months	27.3	36.4	18.2	18.2	22
4 months	10.0	45.0	35.0	10.0	20
5 months	0	33.3	52.4	14.3	21
6–8 months	1.6	1.6	72.6	24.2	62
9–11 months	0	0	73.3	26.7	75
12–23 months	0.5	0.5	57.7	41.3	201
Subtotal for children < 4 mo.	34.7	50.5	7.4	7.4	95
Subtotal for children < 6 mo.	25.7	47.1	18.4	8.8	136
Age of child	Control				
	% giving only breastmilk	% giving breastmilk and other liquids	% giving breastmilk and food	% not giving breastmilk, just food	Number of children in this age range
<1 month	58.3	41.7	0	0	12
1 month	31.8	63.6	4.5	0	22
2 months	42.1	52.6	0	5.3	19
3 months	13.6	54.5	18.2	13.6	22
4 months	6.7	46.7	20.0	26.7	15
5 months	3.8	11.5	69.2	15.4	26
6–8 months	0	4.7	67.2	28.1	64
9–11 months	0	0	72.9	27.1	70
12–23 months	0	0	54.7	45.3	214
Subtotal for children < 4 mo.	33.3	54.7	6.7	5.3	75
Subtotal for children < 6 mo.	23.3	44.0	22.4	10.3	116

Annex R
Composite Child Feeding Scores and Knowledge Scores

Table R.1: Children 6–8 Months of Age

Component of analysis		Questions to consult in data set	Description	Ranking of practice and points assigned		
				Optimal	Adequate	Sub-optimal
1	Breastfeeding (BF) practice	Qn. 166, 173–174	BF 6 times or more per 24 hr.	2		
			BF 1–5 times per 24 hr.		1	
			No BF			0
2	Use of baby bottle	Qn. 187 #3 and Qn. 188 #1	Does not use a baby bottle for feeding child	1		
3	Pattern of BF with complementary foods	Qn. 185	BF and solid food	2		
			No BF, only solid food		1	
			BF and liquids			0
			Only BF			0
4	Frequency of consumption of semi-solid food	Qn. 191	*For optimal or adequate BF:*			
			2 or more times / day	2		
			1 time / day		1	
			0 / day			0
			For sub-optimal or no BF:			
			3 or more times / day	2		
			2 times / day		1	
			0–1 times / day			0

Table R.2: Children 9–11 Months of Age

	Component of analysis	Questions to consult in data set	Description	Ranking of practice and points assigned		
				Optimal	Adequate	Sub-optimal
1	Breastfeeding practice	Qn. 166, 173–174	BF 5 times or more per 24 hr.	2		
			BF 1–4 times per 24 hr.		1	
			No BF			0
2	Use of baby bottle	Qn. 187 #3 and Qn. 188 #1	Does not use a baby bottle for feeding child	1		
3	Pattern of BF with complementary foods	Qn. 185	BF and solid food	2		
			No BF, only solid food		1	
			BF and liquids			0
			Only BF			0
4	Frequency of consumption of semi-solid food	Qn. 191	*For optimal or adequate BF:*			
			3 or more times / day	2		
			2 times / day		1	
			0–1 times / day			0
			For sub-optimal or no BF:			
			4 or more times / day	2		
			3 times / day		1	
			< 3 times / day			0

Table R.3: Children 12–23 Months of Age

	Component of analysis	Questions to consult in data set	Description	Ranking of practice and points assigned		
				Optimal	Adequate	Sub-optimal
1	Breastfeeding practice	Qn. 166, 173–174	BF 4 times or more per 24 hr.	2		
			BF 1–3 times per 24 hr.		1	
			No BF			0
2	Use of baby bottle	Qn. 187 #3 and Qn. 188 #1	Does not use a baby bottle for feeding child	1		
3	Frequency of consumption of semi-solid food	Qn. 191	*For optimal or adequate BF:*			
			4 or more times / day	2		
			2–3 times / day		1	
			0–1 times / day			0
			For sub-optimal or no BF:			
			5 or more times / day	2		
			3–4 times / day		1	
			< 3 times / day			0

Table R.4: Children 6–8 Months of Age

Component of analysis	Questions to consult in data set	Description	Points assigned
Awareness of EBF	Qn. 183 (6 mo. response only)	Caretakers who recall being told to breastfeed exclusively until 6 months	+ 1
Breastmilk production	Qn. 184 #A, B, or C only	Caretakers who know at least 1 of these 3 ways stimulating production of sufficient breastmilk	+ 1
Introduction of solid foods	Qn. 194	Caretakers who declare appropriate age of introduction of solid foods as > or = 6 mo.	+ 1
Consistency of early foods given	Qn. 195, #A, B, and D only	Caretakers who report any 1 of these 3 options as an appropriate way of serving a child his/her first semi-solid foods	+ 1
Eating same food as family	Qn. 197	Caretakers who believe that from 6 to 12 mo. is the best age to begin feeding the child the same food as the rest of the family is eating	+ 1
Thick soup	Qn. 198 #1 only	Caretakers who respond that thick soup (*sopa espesa*) is the appropriate way of serving a child soup	+ 1
Preparation of soup	Qn. 201 #A or B only	Caretakers who report any either 1 of these 2 options for making thick soup	+ 1
Amount 2 year old can eat	Qn. 205	Caretakers who believe that a 2-year-old child can eat half of what an adult eats in one day	+ 1
Appetite improvement	Qn. 207 #A, B, C, or D only	Caretakers who are aware of any 1 of these 4 options for improving a child's appetite	+ 1
Maximum knowledge score possible:			9

Annex S
Midterm Household Survey Questionnaire

ENCUESTA DE LA EVALUACION DE MEDIO TERMINO DEL MODELO DE ATENCION INTEGRAL A LA NIÑEZ (AIN)

HONDURAS, C.A.

SEPTIEMBRE, 2000

DATOS DE LA VIVIENDA Y LA COMUNIDAD

I.   IDENTIFICACION DE LA VIVIENDA

NUMERO DE CUESTIONARIO: ___ ___ ___ ___

DEPARTAMENTO: _____ (___ ___)

MUNICIPIO: _____ (___ ___)

GRUPO: 1. Intervención (Programa AIN)
                 2. Control

ESTRATO: 1. Urbano
                 2. Mixto
                 3. Rural

PARTICIPACION EN LA LINEA DE BASE:
                 1. Sí ---- Código de línea de base: _____ _____ _____
                 2. No

REGION DE SALUD: _____

AREA: _____ (___ ___)

UPS: _____ (___ ___)

COMUNIDAD: _____ (___ ___)

VIVIENDA No. ____ ____ ____

Nombre del jefe de la familia _____
                               (con el que lo conocen en la comunidad)

Dirección de la vivienda: _____

_____

Nombre de un vecino informante: _____
                                 (con el que lo conocen en la comunidad)

Fecha de la entrevista: ___ ___ / ___ ___ / 2000   Hora de ____ : ___ ___
                        día   mes   año   inicio hora minutos

Nombre de la encuestadora: _____ (___ ___)

ENCUESTADORA: "Estamos realizando una encuesta sobre la salud de los niños menores de 2 años. Los datos que nos proporcionen son confidenciales y sirven al Ministerio de Salud para mejorar la calidad de la atención que presta en sus centros de salud. Esperamos contar con su colaboración."

II.   DATOS DE LA VIVIENDA Y SUS RESIDENTES

ENCUESTADORA: "VAMOS A EMPEZAR HABLANDO DE LA CASA DONDE UDS. VIVEN."

1. ¿De donde obtienen principalmente el agua en esta vivienda?

    1.   Llave dentro de la vivienda
    2.   Llave fuera de la vivienda pero dentro de la propiedad
    3.   Llave fuera de la propiedad a menos de 100 metros
    4.   Llave fuera de la propiedad a 100 metros o más
    5.   Fuente natural: río, quebrada, naciente, vertiente, lago
    6.   Pozo malacate (sin bomba)
    7.   Pozo con bomba (eléctrica o manual)
    8.   La compran / carro cisterna
    9.   Fuente de agua protegida
    88.   Otro _____
                        Especifique

2. ¿El agua que toman principalmente en esta vivienda es electropura, la cloran, la hierven o la toman tal como viene de la fuente abastecedora?

    1.   Electropura
    2.   La cloran
    3.   La hierven
    4.   La toman como viene de la fuente
    5.   Otro _____
                        Especifique

3. ¿Cuántos cuartos tiene la vivienda?

    _____ No. de cuartos

4. ¿Cuántos de estos cuartos utilizan como dormitorios?

    _____ No. de cuartos para dormitorio

5. ¿Tienen un cuarto aparte para la cocina?

   1. Sí
   2. No

6. ¿Qué clase de combustible utilizan para cocinar?

   1. Leña
   2. Gas líquido / kerosén
   3. Gas propano
   4. Electricidad
   5. Otro _____
          Especifique

7. ¿Qué clase de servicio sanitario tiene esta vivienda?

   1. Inodoro lavable
   2. Letrina hidráulica / taza campesina
   3. Letrina fosa simple
   4. No tiene / al aire libre
   5. Otro _____
          Especifique

8. En esta vivienda hay ……. (LEER CADA UNA)

		Sí	No
A.	Luz eléctrica	1	2
B.	Radio	1	2
C.	Televisión	1	2
D.	Refrigeradora	1	2
E.	Teléfono	1	2
F.	Vehículo automotor	1	2
G.	Otro _____		

          Especifique

9. ¿Cuál es el material predominante en el piso de esta vivienda?

   1. Tierra
   2. Madera
   3. Plancha de cemento
   4. Ladrillo de rafón o de barro
   5. Ladrillo mosaico (cemento)
   6. Otro _____
          Especifique

10. ¿Desde aquí de su casa cuánto se tarda en llegar hasta el centro de salud / hospital o médico que Ud. visita por el medio usual de transporte?

1. Menos de media hora
2. De media hora a menos de 1 hora
3. 1 a < 2 horas
4. 2 a < 3 horas
5. 3 horas o más
6. No visita servicios de salud------------ PASE A 12
7. Otro _____
   Especifique

11. ¿Cuánto gasta aproximadamente en transporte y comida para ir al centro de salud / hospital o médico que usted visita?

_____ Lps.

000.00 = No implica ningún gasto.   998 = 998 o más
                                            999 = no sabe/ no recuerda

12. ¿Cuántas personas residen habitualmente en esta vivienda?

(Excluye visitantes y no olvide incluir los niños y niñas pequeños(as) y personas de edad avanzada)

1. Total   _____ _____
2. Varones   _____ _____
3. Mujeres   _____ _____

13. Del total de varones   Del total de mujeres
    cuántos son: cuántas son:

    De 0 a < 12 meses   _____   De 0 a < 12 meses   _____
    De 12 a < 24 meses _____   De 12 a < 24 meses _____
    De 2 a < 3 años   _____   De 2 a < 3 años   _____
    De 3 a < 5 años   _____   De 3 a < 5 años   _____
    De 5 a 18 años   _____   De 5 a 18 años   _____
    Mayores de 18 años _____   Mayores de 18 años _____

14. Liste los nombres y la fecha de nacimiento de los niños menores de 2 años de edad que residen en esta vivenda, empezando por el menor de edad.

No. de Orden	Nombre del niño	Sexo M F	Fecha de nacimiento día mes año	Edad meses cumplidos	Se pudo confirmar la fecha con algo escrito Sí No
1. _____ **(niño índice)**		1 2	____ ____ ____	_____	1 2
2. _____		1 2	____ ____ ____	_____	1 2
3. _____		1 2	____ ____ ____	_____	1 2
4. _____		1 2	____ ____ ____	_____	1 2

15. Liste los nombres y la fecha de nacimiento de los niños de 2 a menos de 4 años de edad que residen en esta vivienda, empezando por el menor de edad.

No. de Orden	Nombre del niño	Sexo M F	Fecha de nacimiento día mes año	Edad meses cumplidos	Se pudo confirmar la fecha con algo escrito Sí No
1. _____		1 2	____ ____ ____	_____	1 2
2. _____		1 2	____ ____ ____	_____	1 2
3. _____		1 2	____ ____ ____	_____	1 2
4. _____		1 2	____ ____ ____	_____	1 2

III.   DATOS SOBRE PARTICIPACIÓN EN PROGRAMAS DE ASISTENCIA SOCIAL

16.   ¿Sabe Ud. si en esta comunidad hay……   (**LEER**)

A.	Bono Materno infantil	1	2
B.	Comedor / lactarío comunal	1	2
C.	Visión Mundial	1	2
D.	CARE	1	2
E.	Aldea Global	1	2
F.	Programa AIN (de peso del niño)	1	2
G.	Otro _____ Especifique	1	2

17. Está inscrito o participa _____ (nombre del niño índice) en ….
    (LEER PROGRAMAS DE LA PREGUNTA 16)

		Sí	No
A.	Bono Materno infantil	1	2
B.	Comedor / lactarío comunal	1	2
C.	Visión Mundial	1	2
D.	CARE	1	2
E.	Aldea Global	1	2
F.	Programa AIN (de peso del niño)	1	2
G.	Otro _____	*1*	*2*
	Especifique		

18. ¿Pertenece usted y / u otro miembro de su familia a algún grupo organizado de la comunidad?

		MADRE	OTRO MIEMBRO DE LA FAMILIA
A.	Sí ⟶ **¿Quién(es)?**	1	2
B.	No ------------------ PASE A 21		

19. ¿A cuál grupo?

		MADRE	OTRO MIEMBRO DE LA FAMILIA
A.	Bono Materno infantil	1	2
B.	Comedor / lactarío comunal	1	2
C.	Visión Mundial	1	2
D.	CARE	1	2
E.	Aldea Global	1	2
F.	Programa AIN (de peso del niño)	1	2
G.	Otro _____	1	2
	Especifique		

20. ¿Participa Ud. en las actividades que realiza el grupo?

    1. Sí
    2. No

21. ¿Sabe Ud. si hay alguna persona encargada de pesar a los niños cada mes en esta comunidad?

    1. Sí
    2. No ----------------------- PASE AL CUESTIONARIO DEL NINO

22. ¿Cómo se llama esta persona? _____

              (ENCUESTADORA: PUEDEN HABER VARIAS PERSONAS)

23. ¿Para qué programa trabaja?   (LEER OPCIONES EN CASO NECESARIO)

    1.   Monitora de AIN
    2.   Personal de Aldea Global
    3.   CESAR
    4.   CESAMO
    5.   Otro _____
                      Especifique

ENCUESTADORA: PROFUNDICE SI ES UNA COMUNIDAD DEL PROGRAMA DE AIN Y EL NOMBRE NO CORRESPONDE AL LISTADO PROVEIDO. DEBE QUEDAR CLARO QUE LAS PREGUNTAS A CONTINUACION SE TRATAN DE ESA PERSONA Y QUE ES LA MONITORA DE AIN.

LAS PREGUNTAS #24-#27 SE APLICAN UNICAMENTE A COMUNIDADES DE AIN. SI LA COMUNIDAD ES DEL GRUPO "CONTROL", PASE AL CUESTIONARIO INDIVIDUAL DEL NIÑO.

24. ¿Ha asistido Ud. a alguna reunión comunitaria organizada por la monitora de AIN ?

    1.   Sí
    2.   No ------------------ PASE A 26

25. ¿Recuerda Ud. de qué les hablaron en esa reunión?

		MENCIONO	NO MENCIONO
A.	Salud de los niños	1	2
B.	Crecimiento de los niños de la comunidad	1	2
C.	Asistencia a las sesiones de peso	1	2
D.	Trabajo comunitario para mejorar condiciones	1	2
E.	Otro _____ Especifique	1	2
F.	No sabe / no recuerda	1	2

26. ¿Ha participado Ud. en alguna actividad / trabajo comunitario organizado por AIN?

    1.   Sí
    2.   No -------------- PASE AL CUESTIONARIO INDIVIDUAL DEL NIÑO

27. ¿Cuál? _____ (__ __)
                 Especifique

ENCUESTADORA: A CONTINUACION PROCEDA A LLENARLE UN "CUESTIONARIO INDIVIDUAL" AL NIÑO INDICE.

CUESTIONARIO INDIVIDUAL DEL NIÑO

IDENTIFICACION DE LA VIVIENDA

NUMERO DE CUESTIONARIO: ___ ___ ___ ___

UPS: _____ (___ ___)

COMUNIDAD: _____ (___ ___)

VIVIENDA No. ____ ____ ____

Nombre del jefe de la familia _____
<center>(con el que lo conocen en la comunidad)</center>

Nombre del niño índice: _____   No. de Orden (___) ____ ____
<div align="right">Edad en meses
cumplidos</div>

I. CARACTERISTICAS DE LA MADRE, O EN SU DEFECTO, DE LA MUJER QUE PRINCIPALMENTE CUIDA AL NIÑO

1.   ¿Quién cuida principalmente a: _____?

(nombre del niño índice)

     1.   La madre
     2.   Abuela
     3.   Hermana
     4.   Tía
     5.   Otro pariente
     6.   Otro no pariente

Nombre de la persona que principalmente cuida al niño: _____

ENCUESTADORA: SI ES LA MADRE LA PERSONA QUE PRINCIPALMENTE CUIDA AL NIÑO CONTINÚE Y SOLO EN EL CASO DE QUE ÉSTA NO PARTICIPE EN EL CUIDADO DEL NIÑO, PASE A PREGUNTA 12.

2.   ¿Cuántos años cumplidos tiene Ud.?

___ ___ Años

3.   ¿Tiene marido o compañero que viva habitualmente aquí en su casa?

     1.   Sí
     2.   No

4.   ¿En total cuántos hijos nacidos vivos ha tenido?

____ _____ No. de hijos.

5.   ¿Se le ha muerto algún hijo nacido vivo antes de cumplir los cuatro años de edad?

     1.   Sí
     2.   No -------------------PASE A PREGUNTA 7

6.   ¿Cuántos de sus hijos nacidos vivos se le han muerto antes de cumplir los cuatro años?

_____ HNV fallecidos

7. ¿Cuál fue el grado o año más alto que usted aprobó en la escuela, colegio o universidad? (ENCUESTADORA: ENCIERRE CON UN CÍRCULO EL ÚLTIMO GRADO)

A   B
1. Ninguno   0
2. Primaria   1   2   3   4   5   6
3. Secundaria   1   2   3   4   5   6
4. Universidad/superior   1   2   3   4   5   6   7   0   más

Anote el código correspondiente: ____ _____
                                   A   B

8. ¿Realiza o hace Ud. algún trabajo o actividad por el cual recibe pago en dinero o en otra forma?

1. Sí
2. No -----------------PASE A CAPITULO II.

9. Este trabajo lo realiza:

1. En casa -----------PASE A PREGUNTA 11
2. Fuera de casa
3. Ambas situaciones

10. ¿Por razones de su trabajo cuántas horas pasa diariamente fuera de casa?

___ ___ Horas

11. ¿Qué clase de trabajo realiza?

1. Trabajadora / obrera de maquila
2. Costurera de ropa (trabaja por su cuenta, no en maquila)
3. Artesana
4. Oficios domésticos / Aseadora
5. Elabora / vende de comida
6. Pequeña comerciante (pulpería u otro)
7. Trabajadora agrícola
8. Lavadora / planchadora de ropa
9. Profesional nivel medio (promotora de salud, maestra primaria, enfermera auxiliar, etc)
10. Profesional nivel universitario (médica, ingeniera, enfermera graduada, etc.)
11. Otro _____
                    Especifique

ENCUESTADORA: SI LA MADRE PASA ALGUN TIEMPO FUERA DE LA CASA Y RECIBE AYUDA PARA EL CUIDADO DEL NIÑO FORMULE LAS PREGUNTAS 12 A 14 A LA PERSONA QUE MAS LE AYUDA EN EL CUIDADO DEL NIÑO; SI NO ES EL CASO PASE A CAPITULO II.

12.   ¿Cuántos años cumplidos tiene Ud.?

        ___ ___ Años

13.   ¿Cuál fue el grado año más alto que usted aprobó en la escuela, colegio o universidad? (Encierre con un círculo el último grado)

A   B
1.   Ninguno   0
2.   Primaria   1   2   3   4   5   6
3.   Secundaria   1   2   3   4   5   6
4.   Universidad/superior   1   2   3   4   5   6   7   0   más

        Anote el código correspondiente: _____ _____
                                                              A   B

14.   ¿Cuál es su relación o parentesco con _____?
                                                                        (Nombre del niño)

        1.   Abuela
        2.   Hermana
        3.   Tía
        4.   Otro pariente
        5.   Otro no pariente

II.   ATENCIÓN DEL PARTO Y CUIDADO POSTPARTO

15.   ¿En qué lugar tuvo el parto de _____?
(Nombre del niño)

     1.   En casa (sin asistencia especializada)
     2.   Con partera
     3.   En casa con médico / enfermera
     4.   CESAR / CESAMO
     5.   Hospital / clínica privada
     8.   Otro
     9.   No sabe / no recuerda

16.   ¿Cree que su niño nació pequeño, normal, grande?

     1.   Pequeño
     2.   Normal
     3.   Grande
     9.   No sabe

17.   ¿Le pesaron el niño al nacer?

     1.   Sí
     2.   No ----------------------------------PASE A PREGUNTA 19
     9.   No sabe, no recuerda -------------- PASE A PREGUNTA 19

18.   ¿Cuánto pesó?

     1.   Libras ___ ___   Onzas ___ ___   o   Gramos ___ ___ ___ ___
     99 = NS/NR

19.   ¿Tiene el carnet de vacunación y/o tarjeta del niño? ¿Me los podría mostrar?

     1.   Mostró ambos
     2.   Mostró sólo el carnet
     3.   Mostró la tarjeta
     4.   No mostró ninguno ---------PASE A 21

20.   ENCUESTADORA: ¿Está anotado en el carnet o tarjeta el peso del niño al
     nacer?

     1.   Sí ---------------- Verifique el peso del niño al nacer (Vea 18).
     2.   No

21. ¿Después del parto, alguién de la comunidad la visitó para comprobar que Ud. y su niño estaban sanos?

    1.   Sí
    2.   No ---------------- PASE A CAPITULO III
    9.   No sabe / no recuerda   - PASE A CAPITULO III

22. ¿Quién la visitó despúes del parto?

    1.   Monitora de AIN
    2.   Partera
    3.   Personal del CESAR / CESAMO
    4.   Médico / enfermera (privado)
    5.   Personal del hospital / clínica privada
    6.   Otro: _____
               Especifique

ENCUESTADORA: SI NO MENCIONO LA MONITORA DE AIN O LA PARTERA, PASE A CAPITULO III.

23. ¿Cuándo la visitó?

		MONITORA	PARTERA
A.	En la 1a semana despúes del parto	1	2
B.	En la 2a semana despúes del parto	1	2
C.	Dentro de la segunda quincena	1	2
D.	Después del primer mes	1	2

24. ¿Qué hizo esa persona?

		MENCIONO MONITORA	MENCIONO PARTERA
A.	Hizo un examen físico a la madre	1	2
B.	Le hizo un examen físico al niño	1	2
C.	Registró al niño en el programa de AIN	1	2
D.	Le dió tarjeta para el niño	1	2
E.	Le dió carnet de vacunas del niño	1	2
F.	Le pidió llevar al niño a las reuniones mensuales de AIN para pesarlo	1	2
G.	Se lo refirieron a nivel superior	1	2
H.	Otro _____	1	2
	Especifique		

III.   VACUNACIONES

ENCUESTADORA: REVISE EL CARNET O TARJETA DE VACUNA Y ANOTE EL NÚMERO DE DOSIS DE CADA VACUNA Y FECHAS DE ADMINISTRACIÓN. "TOTAL" SE REFIERE AL TOTAL DE DOSIS ADMINISTRADAS QUE APARECEN EN EL CARNET. **SI NO TIENE CARNET, PASE A PREGUNTA 33**

	Primera dosis	Segunda dosis	Tercera dosis	Total
25. Polio	__ __/__ __/__ __ día mes año	__ __/__ __/__ __ día mes año	__ __/__ __/__ __ día mes año	_____
26. DPT	__ __/__ __/__ __ día mes año	__ __/__ __/__ __ día mes año	__ __/__ __/__ __ día mes año	_____
27. Sarampión (SRP)	__ __/__ __/__ __ día mes año			_____
28. BCG	__ __/__ __/__ __ día mes año			_____

29. ENCUESTADORA: Si el niño ya cumplió los 4 meses de edad revise en la tarjeta si tiene anotado la aplicación de hierro. (**SI TIENE MENOS DE 4 MESES, PASE A 43)**

    1.   Sí tiene anotado
    2.   No tiene anotado ---------PASE A 31

30. ENCUESTADORA: Anote cuántas veces aparece que le han aplicado hierro.

    ___ ___ Veces

    Fecha de última dosis: ___ ___   ___ ___   ___ ___ ___ ___
                                   día   mes   año

    Fecha de penúltima dosis: ___ ___   ___ ___   ___ ___ ___ ___
                                   día   mes   año

    Fecha de antepenúltima dosis: ___ ___   ___ ___   ___ ___ ___ ___
                                   día   mes   año

31. ENCUESTADORA: Si el niño ya cumplió los 6 meses revise en el carnet si tiene anotado la aplicación de la vitamina "A". (**SI TIENE MENOS DE 6 MESES, PASE A 43)**

    1.   Sí tiene anotado
    2.   No tiene anotado ----------PASE A 43

32. ENCUESTADORA: Anote cuántas veces aparece que le han aplicado vitamina "A".

    ___ ___ Veces

Fecha de última dosis:	___ ___	___ ___	___ ___ ___ ___
	día	mes	año
Fecha de penúltima dosis:	___ ___	___ ___	___ ___ ___ ___
	día	mes	año
Fecha de antepenúltima dosis:	___ ___	___ ___	___ ___ ___ ___
	día	mes	año

ENCUESTADORA: PASE A 43

ENCUESTADORA: INFORMACION SI NO TIENE CARNET

33. ¿Le aplicaron la vacuna de BCG contra la tuberculosis (la inyectada en el brazo)?

    1.   Sí
    2.   No
    9.   No recuerda / no sabe

34. ¿Cuántas dosis de DPT le han aplicado al niño (la inyectada en la nalga)?

    _____ Dosis
              9 = No recuerda / no sabe

35. ¿Cuántas dosis de polio (gotas en la boca) le han aplicado al niño?

    _____ Dosis
              9 = No recuerda / no sabe

36. ¿Cuántas dosis contra el sarampión / SRP le han aplicado al niño? (aplicada al cumplir un año).

    _____ Dosis
              9 = No recuerda / no sabe

37. ENCUESTADORA: ¿El niño ya cumplió 4 meses de edad?

1.   Sí
2.   No ----------- PASE A 43

38. ¿A _____le han dado hierro?
                    (nombre del niño)

1.   Sí
2.   No ----------- PASE A 43

39. ¿Cuántas veces le han dado hierro?

_____ Veces

40. ENCUESTADORA: ¿El niño ya cumplió 6 meses de edad?

1.   Sí
2.   No -------------PASE A 43

41. ¿A _____ le han dado Vitamina "A"?
                    (nombre del niño)

1.   Sí ⟶ **Fecha de la última dosis:**   __ __ / __ __ / __ __ __ __
                                                                        día   mes   año
2.   No -------------PASE A 43
9.   No sabe – PASE A 43

42. ¿Cuántas veces le han dado vitamina "A"?

_____ Veces
                    9 = NS / NR

43. ¿Le han dado a _____ un desparasitante?
                    (nombre del niño)

1.   Sí
2.   No
9.   No sabe

IV. CONTROL DE CRECIMIENTO Y DESARROLLO

44. ¿Después de nacer _____ (nombre del niño) lo llevó al médico, centro de salud o la visitó la monitora de AIN (monitora de peso) para un control?

    1.   Sí
    2.   No ------------------------- PASE A 48
    9.   No sabe, no recuerda ----- PASE A 48

45. ¿Cuántos días tenía cuando lo llevó al médico, centro de salud o visitó la monitora de AIN por primera vez?

    ___ ___ días
                    99 = No sabe o no recuerda
                    77 = Más de 60 días

46. ¿Adónde lo llevó?

    1.   Hospital del Ministerio de Salud Publica
    2.   Hospital del IHSS
    3.   Hospital / médico / clínica privada
    4.   CESAMO
    5.   CESAR
    6.   Monitora de AIN
    7.   Otro _____
                        Especifique

47. ¿Por qué lo llevó?

    1.   Estaba enfermo
    2.   Niño sano (control de crecimiento y desarrollo)
    3.   Vacunas
    4.   Otro _____
                        Especifique

48. ¿Cree que su niño está creciendo bien?

    1.   Sí
    2.   No --------------------- PASE A 50
    9.   No sabe --------------- PASE A 50

49. ¿Qué le indica que está creciendo bien?

		MENCIONO	NO MENCIONO
A.	No se enferma / está sano	1	2
B.	Come bien	1	2
C.	Está creciendo	1	2
D.	Aumenta peso	1	2
E.	Duerme bien / juega	1	2
F.	Otros _____	1	2
	Especifique		

50. ¿Qué le indica / indicaría a usted que su niño no está creciendo bien?

	MENCIONO	NO MENCIONO
A. No come	1	2
B. Enfermizo	1	2
C. Desnutrido	1	2
D. Delgado / bajo peso	1	2
E. Decaído	1	2
F. No aumentó peso adecuadamente	1	2
G. Otros _____	1	2
Especifique		

51. ¿Tiene actualmente a _____ (nombre del niño) en control de crecimiento y desarrollo (control de peso) ?

    1.   Sí ---------- PASE A 53
    2.   No

52. ¿Por qué no?

	MENCIONO	NO MENCIONO
A. Descuido	1	2
B. No tiene tiempo	1	2
C. No lo atienden bien	1	2
D. No lo necesita	1	2
E. Otros _____	1	2
Especifique		

ENCUESTADORA: **SI NO LO TIENE EN CONTROL** PASE A PREGUNTA 63

53. ¿Con quién / dónde lo tiene en control / sesiones de peso ?

    1.   Monitora de AIN
    2.   CESAR
    3.   CESAMO
    4.   Otro _____
            Especifique

54. ¿Qué edad tenía el niño cuando empezó a llevarlo al control / sesiones de peso?

_____ Meses

99 – No sabe / no recuerda

55. ¿En los últimos tres meses cuántas veces ha llevado a _____(nombre del niño) al control de peso / a las sesiones de peso ?

____ Veces

9 – No sabe / no recuerda

56. ¿Durante el último control, qué le hicieron al niño y qué explicaciones o recomendaciones le dieron a usted?

		MENCIONO ESPONTANEO	MENCIONÓ CON AYUDA	NO MENCIONÓ
A.	Pesaron al niño	1	2	3
B.	Le dijeron cuanto pesó	1	2	3
C.	Le dijeron si el peso era adecuado	1	2	3
D.	Le hablaron sobre lactancia	1	2	3
E.	Le explicaron como alimentar al niño	1	2	3
F.	Si estaba enfermo por diarrea o estaba mal del pecho le dijeron como tratarlo	1	2	3
G.	Le hablaron sobre higiene	1	2	3
H.	Le dieron una cita o la visitaron para ver como seguía	1	2	3
I.	Lo refirieron	1	2	3
J.	Le hablaron sobre hierro	1	2	3
K.	Le hablaron sobre vitamina A	1	2	3
L.	Le hablaron sobre planificación familiar	1	2	3
M.	Le hablaron sobre vacunas	1	2	3
N.	Revisó la tarjeta del niño o el carnet de vacunas	1	2	3
O.	Otro _____ Especifique	1	2	3

57. ¿Ha recibido Ud. una visita en su casa de la persona encargada del control de crecimiento / control de peso para hablarle sobre la salud de su niño?

    1.   Sí
    2.   No ------------ PASE A 63

58. ¿Con qué frecuencia ha recibido una visita?

    1.   Sólo una vez
    2.   De vez en cuando
    3.   Casi cada mes
    4.   Varias veces por mes

59. ¿Cuándo fue la última visita?

    1.   Menos de un mes
    2.   De 1 mes a 2 meses
    3.   Más de 2 meses

60. ¿Por qué la visitó en su casa?

		MENCIONO	NO MENCIONO
1.	No asistió a la reunión mensual	1	2
2.	Crecimiento inadecuado	1	2
3.	Niño enfermo	1	2
4.	Visita por recién nacido	1	2
5.	Otro _____ especifique	1	2

61. ¿Qué hizo durante esa visita?

		MENCIONO	NO MENCIONO
1.	Pesó al niño	1	2
2.	Le dio consejos	1	2
3.	Revisó la tarjeta del niño	1	2
4.	Le refirió a un centro de salud	1	2
5.	Otro _____ especifique	1	2

62. ¿Qué consejos le dio?

		MENCIONO	NO MENCIONO
A.	Darle vitaminas	1	2
B.	Darle alimento más seguido en pequeñas cantidades	1	2
C.	Darle comida más suave / espesa	1	2
D.	Darle pecho más seguido	1	2
E.	Darle más pecho	1	2
F.	Darle más comida	1	2
G.	Darle de comer más veces	1	2
H.	Otro _____	1	2
	Especifique		

63. ENCUESTADORA: Pida que le muestre la tarjeta de control de crecimiento y desarrollo del niño (control de peso)

1. Se la mostraron ------------------- PASE A 74
2. No se la pudieron mostrar **o la tarjeta está en blanco** ----- HACER PREGUNTAS 64-73

64. ¿Alguna vez le han dicho a usted que su niño no está creciendo bien o que está desnutrido?

1. Sí
2. No --------------------- PASE A 71

65. ¿Quién le dijo?

1. Médico
2. Enfermera
3. Monitora de AIN
4. Pariente
5. Amiga / vecina
6. Otro _____
       Especifique

66. ¿Le dieron algunos consejos?

1. Sí
2. No --- PASE A 71

67. ¿Qué le aconsejaron?

68. ¿Siguió estos consejos?

ENCUESTADORA: PREGUNTE SOBRE CONSEJOS Y MARQUE LOS QUE MENCIONA. DESPUES PREGUNTE SOBRE LOS QUE SIGUIO Y MARQUE SOLO LOS CONSEJOS SEGUIDOS EN LA TERCERA COLUMNA.

		MENCIONO	NO MENCIONO	68. SIGUIO
A.	Que continuara dando pecho	1	2	3
B.	Que continuara dando pecho/otros alimentos	1	2	3
C.	Que le diera más comida que de costumbre	1	2	3
D.	Que le diera los alimentos en forma de puré	1	2	3
E.	Que le diera sopas espesas	1	2	3
F.	Que le diera alimentos más frecuentemente	1	2	3
G.	Que no le suprima los frijoles	1	2	3
H.	Le refirió al nivel superior	1	2	3
I.	Otros _____	1	2	3
	Especifique			

ENCUESTADORA: SI NO SIGUIO ALGUN CONSEJO, CONTINUA CON 69.
SI SIGUIO TODOS, PASE A 70.

69. ¿Por qué no?

		MENCIONO	NO MENCIONO
A.	No entendió los consejos	1	2
B.	No estaba de acuerdo con los consejos	1	2
C.	No tenía dinero	1	2
D.	No tenía tiempo	1	2
E.	No tenía quien le cuidara los niños / la casa	1	2
F.	Otro _____	1	2
	Especifique		

70. ¿Qué pasó con el niño?

		MENCIONO	NO MENCIONO
A.	El niño ganó peso	1	2
B.	El niño pareció más sano	1	2
C.	El niño no lloró tanto	1	2
D.	El niño siguió igual / no mejoró	1	2
E.	El niño se puso peor	1	2
F.	Otro _____	1	2
	Especifique		

ENCUESTADORA: MUESTRE LAS LÁMINAS A LA MADRE Y PREGÚNTELE:

71. ¿Ha visto Ud. láminas de este tipo?

1. Sí
2. No ----------------- PASE A CAPITULO V

72. ¿Dónde las ha visto?

		MENCIONO	NO MENCIONO
A.	CESAR	1	2
B.	CESAMO	1	2
C.	Monitora de AIN	1	2
D.	Otro _____	1	2
	Especifique		

73. ¿Con qué frecuencia las ha visto?   (ENCUESTADORA, MARQUE EN LA COLUMNA APROPIADA)

		MONITORA	CESAR/CESAMO
A.	Sólo una vez	1	2
B.	De vez en cuando	1	2
C.	Cada mes	1	2
D.	Otro _____	1	2
	Especifique		

ENCUESTADORA --------- PASE A CAPITULO V

MIRANDO LA TARJETA ……

74. ¿ENCUESTADORA, cuántas veces ha sido pesado el niño?

_____ Veces

75. ¿ENCUESTADORA, corresponde la fecha del pesaje con la edad del niño?

1. Sí
2. No

76. ¿ENCUESTADORA, cuántos meses cumplidos tenía el niño cuando le anotaron el primer peso?

_____ Meses

77. ENCUESTADORA ¿En la tarjeta hay al menos dos controles marcados?

    1. Sí
    2. No ------------------------ PASE A 80

78. ¿ENCUESTADORA, están unidos los puntos del pesaje con intervalo de uno o dos meses?

    1. Sí
    2. No

79. ¿ENCUESTADORA, está marcada la tendencia con azul o rojo correctamente?

    1. Sí
    2. No

80. Utilizando la gráfica en la tarjeta pida a la madre que le explique como está creciendo el niño.

    1. No pudo explicar
    2. Explicó pero no precisó bien la ganancia de peso
    3. Explicó bien los tiempos de ganancia adecuada o inadecuada de peso.
    4. Solo tiene un punto marcado – PASE A 90

81. ¿ENCUESTADORA, hay en la tarjeta marcado al menos un punto donde el niño no ganó peso adecuadamente?

    1. Sí
    2. No ---------------------- PASE A 90

82. ¿ENCUESTADORA, cuántos meses tenía el niño cuando se marcó el último punto donde no ganó adecuadamente peso?

    ___ ___ Meses

ENCUESTADORA MUÉSTRELE A LA MADRE EL ULTIMO PUNTO DONDE EL NIÑO NO GANO PESO ADECUADAMENTE Y PREGUNTE:

83. ¿Hablaron de las posibles causas por las cuales su niño no ganó peso adecuadamente en ese punto?

    1. Sí
    2. No ---------------------- PASE A 85
    9. No recuerda ----------- PASE A 85

84. ¿De qué causas hablaron?

		MENCIONO	NO MENCIONO
A.	Niño descuidado	1	2
B.	Niño enfermo	1	2
C.	No le da suficiente comida	1	2
D.	No le da suficiente pecho	1	2
E.	Las comidas son muy aguadas	1	2
F.	Otros _____	1	2

Especifique

85. ¿Le dieron algunos consejos para mejorar esa situación del niño?

1. Sí
2. No ------------ PASE A 90

86. ¿Qué le aconsejaron?

87. ¿Siguió estos consejos?

ENCUESTADORA: PREGUNTE SOBRE CONSEJOS Y MARQUE LOS QUE MENCIONA. DESPUES PREGUNTE SOBRE LOS QUE SIGUIO Y MARQUE SOLO LOS CONSEJOS SEGUIDOS EN LA TERCERA COLUMNA.

		MENCIONO	NO MENCIONO	**87. SIGUIO**
A.	Que continuara dando pecho	1	2	3
B.	Que continuara dando pecho/otros alimentos	1	2	3
C.	Que le diera más comida que de costumbre	1	2	3
D.	Que le diera los alimentos deshechos	1	2	3
E.	Que le diera sopas espesas	1	2	3
F.	Que le diera alimentos más frecuentemente	1	2	3
G.	Que le diera la comida en la boca	1	2	3
H.	Que pusiera atención a la cantidad consumida	1	2	3
I.	Que no le suprima los frijoles	1	2	3
J.	Le refirió al nivel superior	1	2	3
K.	Otros _____	1	2	3

**ENCUESTADORA: SI NO SIGUIO ALGUN CONSEJO, PASE A 88.
SI SIGUIO TODOS, PASE A 89.**

88. ¿Por qué no?

		MENCIONO	NO MENCIONO
A.	No entendió los consejos	1	2
B.	No estaba de acuerdo con los consejos	1	2
C.	No tenía dinero	1	2
D.	No tenía tiempo	1	2
E.	No tenía quien le cuidara los niños / la casa	1	2
F.	Otro _____	1	2
	Especifique		

89. ¿ Qué pasó con el niño?

		MENCIONO	NO MENCIONO
A.	El niño ganó peso	1	2
B.	El niño pareció más sano	1	2
C.	El niño no lloró tanto	1	2
D.	El niño siguió igual / no mejoró	1	2
E.	El niño se puso peor	1	2
F.	Otro _____	1	2
	Especifique		

ENCUESTADORA: MUESTRE LAS LÁMINAS A LA MADRE Y PREGÚNTELE:

90. ¿Ha visto Ud. láminas de este tipo?

1. Sí
2. No ----------------- PASE A CAPITULO V

91. ¿Dónde las ha visto?

		MENCIONO	NO MENCIONO
1.	CESAR	1	2
2.	CESAMO	1	2
3.	Monitora de AIN	1	2
4.	Otro _____	1	2
	Especifique		

92. ¿Con qué frecuencia las ha visto? (**ENCUESTADORA: MARQUE EN LA COLUMNA APROPIADA**)

		MONITORA	CESAR/CESAMO
A.	Sólo una vez	1	2
B.	De vez en cuando	1	2
C.	Cada mes	1	2
D.	Otro _____	1	2
	Especifique		

V.   ENFERMEDAD DIARREICA

93. ¿Tiene o ha tenido _____ (nombre del niño) diarrea en los últimos quince días?

    1.   Sí
    2.   No --------------------------- PASE A 128
    9.   No sabe, no recuerda ------ PASE A 128

94. ¿Por cuántos días ha tenido / tuvo diarrea?

    ___ ___ Días
              00 = Comenzó hoy
              99 = No sabe o no recuerda

95. ¿Durante la diarrea el niño estuvo (está) / presentó (presenta)……… **(LEER)**

		Sí	No	No sabe
A.	Sangre en las heces	1	2	3
B.	Irritable / llorón	1	2	3
C.	Ojos hundidos	1	2	3
D.	No orinaba	1	2	3
E.	Mucha sed	1	2	3
F.	Letárgico / inconsciente	1	2	3
G.	Piel arrugada y seca (pliegue cutáneo)	1	2	3

96. ¿Buscó ayuda para tratar o evaluar a su niño?

    1.   Sí
    2.   No -------------- PASE A 108

97. ¿A los cuántos días de haber empezado la diarrea consultó o buscó atencíon **por primera vez**?

    _____ Días

98. ¿A quién consultó o pidió consejo para tratar o evaluar a su niño?

(ENCUESTADORA: PREGUNTE "¿PRIMERO", "¿SEGUNDO?, "¿TERCERO?"

	PRIMERO	**SEGUNDO**	**TERCERO**
A. Amiga / vecina / pariente	1	2	3
B. Curandero	1	2	3
C. Distribuidor de Litrosol	1	2	3
D. Monitora de AIN	1	2	3
E. CESAR	1	2	3
F. CESAMO	1	2	3
G. Médico / clínica privada	1	2	3
H. Hospital	1	2	3
I. Farmacia	1	2	3
J. Otro _____	1	2	3

Especifique

ENCUESTADORA:

EN COMUNIDADES DE AIN, SI MENCIONO LA MONITORA DE AIN PASE A 100. SI NO MENCIONO LA MONITORA DE AIN, CONTINUA CON LA 99.

EN COMUNIDADES DE CONTROL SI MENCIONO CESAR/CESAMO/MEDICO/ CLINICA O HOSPITAL PASE A 103 SI NO MENCIONO NINGUNO DE ESTOS PASE A 108.

99. ¿En algún momento, consultó a la monitora de AIN?

1.   Sí
2.   No -   ENCUESTADORA: SI MENCIONO CESAR / CESAMO / MEDICO / CLINICA O HOSPITAL PASE A 103
        - SI NO MENCIONO NINGUNO DE ESTOS, PASE A 108

100. ¿Qué recomendaciones o consejos le dió la monitora de AIN?

101. ¿Siguió estos consejos?

ENCUESTADORA: PREGUNTE SOBRE CONSEJOS Y MARQUE LOS QUE MENCIONA.   DESPUES PREGUNTE SOBRE LOS QUE SIGUIO Y MARQUE SOLO LOS CONSEJOS SEGUIDOS EN LA TERCERA COLUMNA.

		MENCIONO	NO MENCIONO	**101.** SIGUIO
A.	Que le diera litrosol	1	2	3
B.	Que no le suspendiera el pecho	1	2	3
C.	Que continuara dándole comida	1	2	3
D.	Que le diera más líquidos	1	2	3
E.	Le mencionaron señales de peligro	1	2	3
F.	Se lo refirió a un nivel superior	1	2	3
G.	Le enseñó a preparar el litrosol	1	2	3
H.	Le dió una cita o la visitó para ver como seguía el niño	1	2	3
I.	Otro _____ Especifique	1	2	3

ENCUESTADORA: SI NO SIGUIO ALGUN CONSEJO, CONTINUA CON 102.
SI SIGUIO TODOS, PASE A 103.

102. ¿Por qué no?

		MENCIONO	NO MENCIONO
A.	No entendió los consejos	1	2
B.	No estaba de acuerdo con los consejos	1	2
C.	No tenía dinero	1	2
D.	No tenía tiempo	1	2
E.	No tenía quien le cuidara los niños / la casa	1	2
F.	Otro _____ Especifique	1	2

ENCUESTADORA: SI NO MENCIONO CESAR/CESAMO/MEDICO/ CLINICA / HOSPITAL O FARMACIA EN LA 98, PASE A 108.
SI MENCIONO ALGUNO DE ESTOS, CONTINUA CON 103.

103. ¿Qué recomendaciones o consejos le dieron el personal del CESAR / CESAMO / médico / clínica / hospital / farmacia?

104. ¿Siguió estos consejos?

ENCUESTADORA: PREGUNTE SOBRE CONSEJOS Y MARQUE LOS QUE MENCIONA.   DESPUES PREGUNTE SOBRE LOS QUE SIGUIO Y MARQUE SOLO LOS CONSEJOS SEGUIDOS EN LA TERCERA COLUMNA.

		MENCIONO	NO MENCIONO	**104.** **SIGUIO**
A.	Que le diera litrosol	1	2	3
B.	Que no le suspendiera el pecho	1	2	3
C.	Que continuara dándole comida	1	2	3
D.	Que le diera más líquidos	1	2	3
E.	Le mencionaron señales de peligro	1	2	3
F.	Se lo refirieron a un nivel superior	1	2	3
G.	Le enseñaron a preparar el litrosol	1	2	3
H.	Le dieron una cita o la visitaron para ver como seguía el niño	1	2	3
I.	Otro _____ Especifique	1	2	3

ENCUESTADORA: SI NO SIGUIO ALGUN CONSEJO, CONTINUA CON 105.
SI SIGUIO TODOS, PASE A 106.

105. ¿Por qué no?

		MENCIONO	NO MENCIONO
A.	No entendió los consejos	1	2
B.	No estaba de acuerdo con los consejos	1	2
C.	No tenía dinero	1	2
D.	No tenía tiempo	1	2
E.	No tenía quien le cuidara los niños / la casa	1	2
F.	Otro _____ Especifique	1	2

106. ¿Le recetaron algo para tratar esa diarrea?

		MONITORA	CESAR / CESAMO / OTRO
A.	Sí ➤ **¿Quién? IDENTIFIQUE**:	1	2

B.   No ----------------- PASE A 108

107. ¿Qué le recetaron? (**NO LEER.   IDENTIFIQUE DE QUIEN FUE LA RECETA: DE MONITORA DE AIN O DE ALGUNA OTRA PERSONA)**

		MENCIONO MONITORA	MENCIONO CESAR / CESAMO / OTRO
A.	Pastillas	1	2
B.	Jarabe / líquidos	1	2
C.	Inyecciones	1	2
D.	Purgantes	1	2
E.	Sobada	1	2
F.	Plantas medicinales	1	2
G.	Antibióticos	1	2
H.	Antidiarreicos	1	2
I.	Suero en las venas	1	2
J.	Litrosol	1	2
K.	Suero casero	1	2
L.	Otro_____	1	2
	Especifique		

108. ¿Le dio usted algo por su cuenta?

1. Sí
2. No ------------ PASE A 110

109. ¿Qué le dio?   (**NO LEER LISTA.   PREGUNTE: "¿ALGO MAS?"**)

		MENCIONO	NO MENCIONO
A.	Litrosol	1	2
B.	Te de plantas medicinales	1	2
C.	Te de manzanilla	1	2
D.	Te de canela	1	2
E.	Agua de coco	1	2
F.	Atol de arroz	1	2
G.	Jugos naturales	1	2
H.	Pastillas	1	2
I.	Antidiarreicos	1	2
J.	Otro _____	1	2
	Especifique		

110. ¿Tuvo que hospitalizarlo?

    1.   Sí

    2.   No

111. ENCUESTADORA: ¿Le dio Litrosol al niño durante esta diarrea?

    1.   Sí ----------------------------- PASE A 113

    2.   No

    3.   No sabe que es Litrosol ----- PASE A 116

112. ¿Por qué no le dio? **(ANOTE SOLAMENTE UNA RESPUESTA)**

    1.   No tenía Litrosol en casa

    2.   No sabía que era bueno

    3.   No le tiene fe / no sirve / no cura

    4.   No me lo recetaron

    5.   No le gusta al niño

    6.   Le dio otra clase de medicina

    7.   No había disponible en la comunidad

    8.   No fue grave la diarrea / no estaba deshidratado

    88.   Otro _____
                           Especifique

ENCUESTADORA: SI NO LE DIO LITROSOL   PASE A 116

113. ¿Cuánto tiempo después de iniciada la diarrea le empezó a dar Litrosol?

    1.   ___ ___ Horas

    2.   ___ ___ Días

                  99 – No sabe / no recuerda

114. ¿Cuántos sobres de Litrosol le ha dado o le dio al niño para esta diarrea?

    ___ ___ Sobres

                  99 – No sabe / no recuerda

115. ¿Por cuántos días le dio Litrosol?

    ___ ___ Días

                  99 – No sabe / no recuerda

116. ¿A _____le está dando pecho?

     (nombre del niño)

     1.   Sí
     2.   No / No sabe (en caso de que no es la madre)   ---------- PASE A 121

117. ¿Durante estuvo con esa diarrea le dio el pecho las mismas veces que acostumbra darle?

     1.   Sí ------------------- PASE A 119
     2.   No
     3.   No sabe ------------ PASE A 119

118. ¿Le dio más veces, menos veces o dejó de darle?

     1.   Le dio más veces
     2.   Le dio menos veces
     3.   Dejó de darle

119. ¿Pensando en todos los que le dió a su niño durante esa diarrea, en total le dió la misma cantidad de líquidos que acostumbra darle?

     1.   Sí ------------------- PASE A 121
     2.   No

120. ¿Le dio más (cantidad), menos o dejó de darle líquidos?

     1.   Le dio más cantidad
     2.   Le dio menos cantidad
     3.   Dejó de darle líquidos

121. ¿Ya le empezó a dar otros alimentos a _____?

     (nombre del niño)
     1.   Sí
     2.   No -----------------PASE A 128

122. ¿Durante el niño estuvo con esa diarrea le dio la misma cantidad de alimentos que acostumbra a darle?

     1.   Sí ----------------- PASE A 124
     2.   No

123. ¿Le dio más cantidad, le dio menos o dejó de darle?

        1.   Le dio más cantidad
        2.   Le dio menos cantidad
        3.   Dejó de darle alimentos -------------- PASE A 128

124. ¿Le dio de comer el mismo número de veces que acostumbra?

        1.   Sí ---------------- PASE A 126
        2.   No

125. ¿Le dio más veces o le dio menos veces?

        1.   Le dio más veces
        2.   Le dio menos veces

126. ¿Durante estuvo con esta diarrea le siguió dando de los mismos alimentos que de costumbre, le dio algún alimento especial, o dejó de darle algún alimento?

(ENCUESTADORA: RESPUESTAS #2 Y #3 NO SON EXCLUYENTES.)

        1.   Siguió dándole los mismos alimentos
        2.   Le dio algún alimento especial   (Especifique: _____)
        3.   Dejó de darle algún alimento   (Especifique: _____)

127. ¿Durante el niño estuvo con esa diarrea le siguió preparando los alimentos de la misma manera o se los preparó más desechos o molidos, o en alguna otra forma?

        1.   De la misma manera
        2.   Desechos o molidos
        3.   En forma de atol
        4.   Otro _____
                                 Especifique

128. ¿Cuándo su niño se sintió mejor y ya no tenía diarrea usted le dio algún trato especial en cuanto a su alimentación?

        1.   Trato especial
        2.   Trato normal -------------------- PASE A 130
        3.   Aún tiene diarrea --------------- PASE A 130

129. ¿Cuál fue el trato especial que le dio al niño?

		MENCIONO	NO MENCIONO
A.	Le dio más alimentos	1	2
B.	Le dio alimentos especiales	1	2
C.	Le daba más pecho	1	2
D.	Otra cosa _____	1	2
	Especifique		

130. ¿Qué cosas hace usted para evitar que los niños se enfermen de diarrea?

		MENCIONO	NO MENCIONO
A.	Lavarse bien las manos con agua y jabón antes de darle el pecho	1	2
B.	Lavarse bien las manos con agua y jabón antes de preparar los alimentos	1	2
C.	Lavarse bien las manos con agua y jabón después de ir al servicio / letrina	1	2
D.	Lavarse bien las manos con agua y jabón después de cambiar el pañal del niño	1	2
E.	Cocer / cocinar bien los alimentos y servirlos calientes	1	2
F.	Lavarle las manos al niño antes de darle los alimentos	1	2
G.	Lavarle bien las frutas	1	2
H.	Darle a beber sólo agua hervida / clorada / electropura	1	2
I.	Que todas las personas de la casa usen un servicio sanitario / letrina	1	2
J.	Proteger / tapar los alimentos	1	2
K.	Enterrar la basura	1	2
L.	Otros _____	1	2
	Especifique		

131. ¿Cuándo considera usted que un niño enfermo de diarrea está grave?   **(NO LEER)**

		MENCIONO	NO MENCIONO
A.	Letárgico / inconsciente	1	2
B.	Ojos hundidos	1	2
C.	Irritable / llorón	1	2
D.	No orinaba	1	2
E.	Mucha sed	1	2
F.	Sangre en las heces	1	2
G.	Diarrea que dura más de 14 días	1	2
H.	Piel arrugada y seca (pliegue cutáneo)	1	2
I.	Otros _____	1	2
	Especifique		

VI. INFECCIONES RESPIRATORIAS AGUDAS

132. ¿En los últimos 15 días su niño (nombre) ha tenido tos o dificultad para respirar?

    1.   Sí
    2.   No ---------------------- PASE A 161

133. ¿En los últimos 15 días el niño a presentado…….?   **(LEER)**

		Sí	No
A.	Respiración más rápida de lo normal (cansado)	1	2
B.	Se le hundía el pecho al respirar (tiraje)	1	2
C.	Ha dejado de alimentarse	1	2
D.	Vomita todo lo que bebe y come	1	2
E.	Ha tenido ataques o convulsiones	1	2
F.	Está inconsciente o le cuesta despertarse	1	2
G.	Hace ruidos raros al respirar	1	2

134. ¿Buscó ayuda para tratar o evaluar a su niño?

    1.   Sí
    2.   No -------------- PASE A 146

135. ¿A los cuántos días de haber empezado esta enfermedad al niño, consultó o le buscó atención **por primera vez** ?

    _____ Días

136. ¿A quién consultó o pidió consejo para tratar o evaluar a su niño?

ENCUESTADORA: PREGUNTE "¿PRIMERO", "¿SEGUNDO?, "¿TERCERO?"

		PRIMERO	SEGUNDO	TERCERO
A.	Amiga / vecina / pariente	1	2	3
B.	Curandero	1	2	3
C.	Voluntario de neumonía	1	2	3
D.	Monitora de AIN	1	2	3
E.	Otro voluntario de la comunidad	1	2	3
F.	CESAR	1	2	3
G.	CESAMO	1	2	3
H.	Médico / clínica privada	1	2	3
I.	Hospital	1	2	3
J.	Farmacia	1	2	3
K.	Otro _____	1	2	3
	Especifique			

ENCUESTADORA:

EN COMUNIDADES DE AIN, SI MENCIONO LA MONITORA DE AIN PASE A 138. SI NO MENCIONO LA MONITORA DE AIN, CONTINUA CON LA 137.

EN COMUNIDADES DE CONTROL SI MENCIONO CESAR/CESAMO/ MEDICO/ CLINICA /HOSPITAL O FARMACIA PASE A 141. SI NO MENCIONO NINGUNO DE ESTOS PASE A 146.

137. ¿En algún momento, consultó a la monitora de AIN?

    1.   Sí
    2.   No - ENCUESTADORA: SI MENCIONO CESAR / CESAMO /
                    MEDICO / CLINICA / HOSPITAL /FARMACIA PASE A 141
           - SI NO MENCIONO NINGUNO DE ESTOS, PASE A 146

138. ¿Qué recomendaciones o consejos le dio el voluntario de neumonía o la monitora de AIN?

139. ¿Siguió estos consejos?

ENCUESTADORA: PREGUNTE SOBRE CONSEJOS Y MARQUE LOS QUE MENCIONA. DESPUES PREGUNTE SOBRE LOS QUE SIGUIO Y MARQUE SOLO LOS CONSEJOS SEGUIDOS EN LA TERCERA COLUMNA.

		MENCIONO	NO MENCIONO	**139. SIGUIO**
A.	Que le limpiara la nariz para que respire mejor	1	2	3
B.	Que le pusiera gotas de agua de manzanilla en la nariz	1	2	3
C.	Que le bajara la fiebre con paños húmedos	1	2	3
D.	Que le diera pecho más seguido/más líquido	1	2	3
E.	Que le diera antibióticos	1	2	3
F.	Que le diera aspirinas / antifebriles	1	2	3
G.	Que le continuara dando la alimentación acostumbrada	1	2	3
H.	Le explicó sobre señales de peligro	1	2	3
I.	Le dio una cita o la visitó para ver como seguía el niño	1	2	3
J.	Se lo refirió a un nivel superior	1	2	3
K.	Le dio algo para suavizar / calmar la irritación en la garganta	1	2	3
L.	Otro _____ Especifique	1	2	3

140. ¿Por qué no?

		MENCIONO	NO MENCIONO
A.	No entendió los consejos	1	2
B.	No estaba de acuerdo con los consejos	1	2
C.	No tenía dinero	1	2
D.	No tenía tiempo	1	2
E.	No tenía quien le cuidara los niños / la casa	1	2
F.	Otro _____	1	2
	Especifique		

ENCUESTADORA: SI NO MENCIONO CESAR/CESAMO/MEDICO/ CLINICA O HOSPITAL EN LA 136 PASE A 146. SI MENCIONO ALGUNO DE ESTOS, CONTINUA CON 141.

141. ¿Qué recomendaciones o consejos le dieron el personal del CESAR / CESAMO / clínica / Hospital / Médico /Farmacia ?

142. ¿Siguió estos consejos?

ENCUESTADORA: PREGUNTE SOBRE CONSEJOS Y MARQUE LOS QUE MENCIONA. DESPUES PREGUNTE SOBRE LOS QUE SIGUIO Y MARQUE SOLO LOS CONSEJOS SEGUIDOS EN LA TERCERA COLUMNA.

		MENCIONO	NO MENCIONO	142. SIGUIO
A.	Que le limpiara la nariz para que respire mejor	1	2	3
B.	Que le pusiera gotas de agua de manzanilla en la nariz	1	2	3
C.	Que le bajara la fiebre con paños húmedos	1	2	3
D.	Que le diera pecho más seguido/más líquido	1	2	3
E.	Que le diera antibióticos	1	2	3
F.	Que le diera aspirinas / antifebriles	1	2	3
G.	Que le continuara dando la alimentación acostumbrada	1	2	3
H.	Le explicaron sobre señales de peligro	1	2	3
I.	Le dieron una cita o la visitaron para ver como seguía el niño	1	2	3
J.	Se lo refirieron a un nivel superior	1	2	3
K.	Le dieron algo para suavizar / calmar la irritación en la garganta	1	2	3
L.	Otro _____	1	2	3
	Especifique			

**ENCUESTADORA: SI NO SIGUIO ALGUN CONSEJO, CONTINUA CON 143.
SI SIGUIO TODOS, PASE A 144.**

143. ¿Por qué no?

		MENCIONO	NO MENCIONO
A.	No entendió los consejos	1	2
B.	No estaba de acuerdo con los consejos	1	2
C.	No tenía dinero	1	2
D.	No tenía tiempo	1	2
E.	No tenía quien le cuidara los niños / la casa	1	2
F.	Otro _____	1	2
	Especifique		

144. ¿Le recetaron algo para tratar esa enfermedad del niño?

		MONITORA	CESAR/CESAMO/OTRO
A.	Sí ➔ **¿Quién? IDENTIFIQUE:**	1	2
B.	No ----------------- PASE A 146		

145. ¿Qué le recetaron? **(NO LEER. IDENTIFIQUE DE QUIEN FUE LA
RECETA DE LA MONITORA DE AIN O DE ALGUNA OTRA PERSONA)**

		MENCIONO MONITORA	MENCIONO CESAR/CESAMO/OTRO
A.	Pastillas	1	2
B.	Jarabe / líquidos	1	2
C.	Inyecciones	1	2
D.	Sobada	1	2
E.	Plantas medicinales	1	2
F.	Antibióticos	1	2
G.	Suero en las venas	1	2
H.	Otro _____	1	2
	Especifique		

146. ¿Le dio usted algo por su cuenta?

1.   Sí
2.   No ---------------------- PASE A 148

147. ¿Qué le dio?

		MENCIONO	NO MENCIONO
A.	Te de plantas medicinales	1	2
B.	Gotas de agua de manzanilla en la nariz	1	2
C.	Pastillas	1	2
D.	Jarabes	1	2
E.	Otros _____	1	2
	Especifique		

148. ¿Tuvo que hospitalizarlo?

     1.   Sí
     2.   No

149. ¿A _____ le está dando pecho?
        (nombre del niño)

     1.   Sí
     2.   No / No sabe (en caso de que no es la madre) ---------- PASE A 152

150. ¿Durante estuvo con esa enfermedad le dio el pecho las mismas veces que acostumbra darle?

     1.   Sí -------------------- PASE A 152
     2.   No

151. ¿Le dio más veces, le dio menos veces o dejó de darle?

     1.   Le dio más veces
     2.   Le dio menos veces
     3.   Dejó de darle

152. ¿Ya le empezó a dar otros alimentos a _____ ?
                (nombre del niño)
     1.   Sí
     2.   No ------------------- PASE A 159

153. ¿Durante el niño estuvo con esa enfermedad le dio la misma cantidad de alimentos que acostumbra darle?

     1.   Sí -------------------- PASE A 155
     2.   No

154. ¿Le dio más cantidad, le dio menos o dejó de darle?

     1.   Le dio más cantidad
     2.   Le dio menos cantidad
     3.   Dejó de darle alimentos ------------PASE A 159

155. ¿Le dio de comer el mismo número de veces que acostumbra a darle?

    1.   Sí -------------------- PASE A 157
    2.   No

156. ¿Le dio más veces o le dio menos veces?

    1.   Le dio más veces
    2.   Le dio menos veces

157. ¿Durante estuvo con esta infección respiratoria le siguió dando de los mismos alimentos que de costumbre, le dio algún alimento especial, o dejó de darle algún alimento?

(ENCUESTADORA: RESPUESTAS #2 Y #3 NO SON EXCLUYENTES.)

    1.   Siguió dándole los mismos alimentos
    2.   Le dio algún alimento especial   (Especifique: _____)
    3.   Dejó de darle algún alimento   (Especifique: _____)

158. ¿Durante el niño estuvo con esa enfermedad le siguió preparando los alimentos de la misma manera o se los preparó más desechos o molidos, o de otra forma?

    1.   De la misma manera
    2.   Desechos o molidos
    3.   En forma de atol
    4.   Otro _____
                  Especifique

159. Cuándo su niño se sintió mejor y ya no tenía esa enfermedad, ¿le dio algún trato especial en cuanto a su alimentación o siguió con el de costumbre?

    1.   Trato especial
    2.   Trato normal ------------------------ PASE A 161
    3.   Continúa con la enfermedad ------- PASE A 161

160. ¿Cuál fue el trato especial que le dio al niño?

		MENCIONO	NO MENCIONO
A.	Le dio más alimentos	1	2
B.	Le dio alimentos especiales	1	2
C.	La daba pecho más veces	1	2
D.	Otra cosa _____	1	2
	Especifique		

161. ¿Cuándo considera usted que un niño que tiene tos o dificultad para respirar está grave?

		MENCIONO	NO MENCIONO
A.	Deja de alimentarse	1	2
B.	Tiene convulsiones	1	2
C.	Tiene respiración rápida o cansada	1	2
D.	Le cuesta despertarse / está inconsciente	1	2
E.	Vomita todo lo que bebe y come	1	2
F.	Se le hunde el pecho al respirar (tiraje)	1	2
G.	Hace ruidos raros al respirar	1	2
H.	Otros _____	1	2
	Especifique		

VII. PLANIFICACION FAMILIAR Y LACTANCIA MATERNA

162. ¿En los últimos 30 días, Ud. o su pareja usó algún método anticonceptivo (método de planificación familiar)? (**ENCUESTADORA: PREGUNTE SOLO A LA MADRE. EN CASO DE ENCUESTAR A OTRA PERSONA, PASE A 164**)

    1.   Sí
    2.   No ---------------------- PASE A 164
    3.   Madre ausente -------- PASE A 164

163. ¿Qué método usó?

    1.   Método de Billings
    2.   Condón o preservativo
    3.   Dispositivo (DIU)
    4.   Ritmo
    5.   Operada (esterilizada)
    6.   Inyección / Depo Provera
    7.   Lactancia materna
    8.   Pastillas
    9.   Retiro
    10.   Otro _____
                 especifique

164. ¿Le dió pecho al niño? (**O "LA MADRE LE DIO PECHO AL NIÑO" SI ELLA ESTÁ AUSENTE)**

    1.   Sí ---------------------- PASE A 166
    2.   No
    3.   No sabe (madre ausente) ---------------------- PASE A 166

165. ¿Por qué no le dió pecho al niño?

    1.   Tenía que salir a trabajar
    2.   No tenía tiempo
    3.   No me bajó suficiente leche **/** tenía poca leche
    4.   Problemas con los pechos (dolor / hinchazón)
    5.   Madre se enfermó
    6.   Niño se enfermó
    7.   No sabe (madre ausente)
    8.   Otro _____
                 Especifique

166. ¿Está dándole pecho actualmente?

    1.   Sí --------------------- PASE A 172
    2.   No
    3.   Nunca le dio - PASE A 180
    4.   No sabe (madre ausente)

167. ¿Qué edad tenía el niño cuando dejó de darle de mamar?

    1.   ____ ____ Días (si es menos de un mes)
    2.   ____ ____ Meses
    3.   No sabe / no recuerda

168. ¿Por qué dejó de darle de mamar al niño?

    1.   Niño se enfermó de diarrea
    2.   Niño se enfermó por otra causa
    3.   Niño ya no quería; prefiere el pepe
    4.   Poca leche / insuficiente / pechos se secaron
    5.   Salía a trabajar / estudiaba
    6.   Era inconveniente
    7.   Se enfermó la madre
    8.   Problemas con los pechos (enfermedad / hinchazón / dolor)
    9.   Ya tenía edad para el destete
    10.   Quedó embarazada
    11.   Empezó a utilizar pastillas anticonceptivas
    12.   No sabe (madre ausente)
    13.   Otro _____
                Especifique

169. ¿Antes de quitarle el pecho al niño consultó o recibió consejos sobre esta decisión?

    1.   Sí
    2.   No ----------------------- PASE A 172
    3.   No sabe (madre ausente) ---------- PASE A 180

170. ¿A quién consultó / quién le dio consejos?

    1.   Consejera de lactancia
    2.   Monitora de AIN
    3.   Enfermera
    4.   Médico   - PASE A 172
    5.   Partera   - PASE A 172
    6.   Otro _____ PASE A 172
                Especifique

171. ¿Qué recomendaciones o consejos le dieron?   (**ENCUESTADORA**: **IDENTIFIQUE DE QUIEN FUERON LAS RECOMENDACIONES***)*

		MONITORA	CONSEJERA DE LACTANCIA	PARTERA
A.	Que tratara de seguir dando pecho	1	2	3
B.	Que le diera leche de vaca / lata	1	2	3
C.	Que le diera leche en taza o vaso	1	2	3
D.	Que le diera sopas espesas	1	2	3
E.	Que no le diera sopas aguadas	1	2	3
F.	Otros _____	1	2	3
	Especifique			

172. ¿Mientras usted ha estado dando pecho se ha ordeñado alguna vez?

1. Sí
2. No

ENCUESTADORA VEA EN LA PREGUNTA 166 SI YA NO LE ESTA DANDO PECHO AL NIÑO. SI ESTO ES ASI PASE A PREGUNTA 175.

173. ¿Cuántas veces le dio el pecho desde las seis de la mañana de ayer hasta las seis de la tarde de ayer? (**ENCUESTADORA: Profundice - solo en último caso utilice los códigos 97 o 98**)

___ ___ Número de veces

97 = cada vez que el niño pedía
98 = no recuerda

174. ¿Cuántas veces le dio el pecho desde las seis de la tarde de ayer hasta las seis de la mañana de hoy? (**ENCUESTADORA: Profundice - solo en último caso utilice los códigos 97 o 98**)

___ ___ Número de veces

97 = niño duerme con ella
98 = no recuerda

175. Mientras ha dado el pecho a su niño, ¿ha tenido algún problema relacionado con la lactancia materna?

1. Sí
2. No ------------------- PASE A 180

176. ¿Qué tipo de problema?

		MENCIONO	NO MENCIONO
1.	No le bajaba leche / bajaba poca leche	1	2
2.	Le venía mucha leche y los pechos se me congestionaban	1	2
3.	Problemas con los pechos: dolor, hinchazón	1	2
4.	La madre se enfermó	1	2
5.	Otro _____ Especifique	1	2

177. ¿Alguién le aconsejó / ayudó con este problema?

    1.   Sí

    2.   No ---------------- PASE A 180

178. ¿Quién le ha aconsejado / ayudado con este problema?

    1.   Mi madre / otro pariente

    2.   Amiga / vecina

    3.   Monitora de AIN

    4.   Consejera de lactancia materna

    5.   Enfermera / médico

    6.   Partera

    7.   Otro _____
                  Especifique

179. ¿Qué le aconsejaron?

		MENCIONO	NO MENCIONO
A.	Que le diera de mamar más seguido	1	2
B.	Que se ponga paños de agua tibia	1	2
C.	Que se diera masajes alrededor del pecho	1	2
D.	Que se ordéñara antes de ponerse el niño al pecho	1	2
E.	Que no le diera otros líquidos al niño	1	2
F.	Que tomara bastantes líquidos	1	2
G.	Que exponga sus pechos un rato cada día al aire y al sol	1	2
H.	Otros _____ Especifique	1	2

180. ¿Conoce Ud. algunos de los beneficios de la lactancia materna?

		MENCIONO	NO MENCIONO
A.	El niño se enferma menos	1	2
B.	El niño crece mejor	1	2
C.	Otro _____ especifique	1	2
D.	No sabe	1	2

181. ¿Ha oido hablar de la lactancia (materna) exclusiva?

1. Sí
2. No - PASE A 184

182. ¿De quién oyó hablar de lactancia exclusiva?

		MENCIONO	NO MENCIONO
A.	Monitora de AIN	1	2
B.	Partera	1	2
C.	Consejera de lactancia materna	1	2
D.	Médico	1	2
E.	Enfermera	1	2
F.	Pariente / amiga / vecina	1	2
G.	Grupo comunitario (no AIN)	1	2
H.	Otro _____ Especifique	1	2

183. ¿Durante cuánto tiempo le dijeron que diera sólo pecho a su niño?

_____ Meses

9 – No sabe / no recuerda

184. ¿Qué cree usted que debe hacer una madre para producir suficiente leche?

		MENCIONO	NO MENCIONO
A.	Darle de mamar seguido al niño	1	2
B.	Darle de mamar de ambos pechos	1	2
C.	Despertar al niño si pasa mucho tiempo dormido, para darle de mamar	1	2
D.	Tomar bastantes líquidos como pinol, chocolate o refrescos	1	2
E.	Comer bien	1	2
F.	Otro _____ Especifique	1	2

VIII.   PRACTICAS ALIMENTARIAS

185. ¿Cómo está alimentando actualmente a su niño?

    1.   Sólo pecho
    2.   Pecho más otros líquidos
    3.   Pecho más otros alimentos
    4.   No da pecho, sólo otros alimentos

186. ¿Cuántos meses cumplidos tenía el niño cuando empezó a darle: (LEER)

        00 = Menos de un mes
        66 = No ha dado
        99 = No recuerda / no sabe

    A.   Agua   ___ ___ Meses
    B.   Jugos   ___ ___ Meses
    C.   Té / café   ___ ___ Meses
    D.   Otras leches (Vaca, lata, … etc.)   ___ ___ Meses

187. ¿Por lo general en que le da la leche de lata y otros líquidos a su niño?

    1.   Taza
    2.   Vaso
    3.   Pepe
    4.   Cucharadita
    5.   Todavía no le da
    6.   Otro _____

188. ¿Le dió algo a beber de en pepe ayer o anoche?

    1.   Sí
    2.   No

189. ¿Ya le empezó a dar alimentos sólidos a _____?
                                     (nombre del niño)
    1.   Sí
    2.   No ---------------------- PASE A 193

190. ¿Cuántos meses cumplidos tenía el niño cuando empezó a darle: (**LEER**)

00 = Menos de un mes
66 = No ha dado
98 = No recuerda / no sabe

A. Su primer alimento sólido ___ ___
B. Comida de la olla familiar ___ ___
C. Tortillas ___ ___
D. Frijoles (no sopa) ___ ___
E. Huevos ___ ___
F. Carnes (pollo, res, cerdo ___ ___
    pescado o visceras)

191. ¿Cuántas veces al día le da alimentos sólidos al niño?
    (ENCUESTADORA: NO CONTAR NI PECHO NI OTROS LIQUIDOS)

    ___ ___ Veces

192. ¿Cuáles fueron los tres (3) primeros alimentos que le dió a su niño?

		MENCIONO	NO MENCIONO
A.	Papa	1	2
B.	Banano	1	2
C.	Jugo (de lata o natural)	1	2
D.	Mango	1	2
E.	Tortilla	1	2
F.	Arroz	1	2
G.	Otro _____	1	2
	Especifique		
H.	Otro _____	1	2
	Especifique		
I.	Otro _____	1	2
	Especifique		

193. ¿A qué edad (en meses) cree que se le debe empezar a dar agua u otros líquidos al niño?

    _____ Meses
              8 = Ocho o más meses
              9 = No sabe

194. ¿Cuál cree usted que es la edad apropiada para comenzar a darle alimentos sólidos al niño?

    ___ ___ Meses
              99 = No sabe

195. ¿En qué forma cree usted que se le deben dar los primeros alimentos al niño?

		MENCIONO	NO MENCIONO
A.	Deshechos / molidos	1	2
B.	Espesos	1	2
C.	Licuados	1	2
D.	Trocitos / pedacitos	1	2
E.	Otro _____	1	2
	Especifique		

196. ¿Por qué cree que debe dársele en esa forma?

		MENCIONO	NO MENCIONO
A.	Le sustentan más	1	2
B.	No puede masticar	1	2
C.	Otro _____	1	2
	Especifique		

197. ¿Cuál cree usted que es la mejor edad para empezar a darle al niño comida de la olla familiar? (es decir de la que comen todos los miembros de la familia).

____ ____ Meses
  00 = menos de un mes
  99 = No sabe

198. ¿Cómo cree usted que es mejor darle las sopas al niño: espesas, aguadas o de otra forma?

1. Espesas   -------------- PASE A 200
2. Aguadas (ralas)
3. Otro _____
      Especifique

199. ¿Ha oido hablar de comida espesa o sopa espesa?

1. Sí
2. No - PASE A 202

200. ¿De quién o de qué fuente ha oido (oyó) de esto?

		MENCIONO	NO MENCIONO
1.	Monitora de AIN	1	2
2.	CESAR	1	2
3.	CESAMO	1	2
4.	Otro _____	1	2
	Especifique		

201. ¿Cómo se prepara una sopa espesa?

		MENCIONO	NO MENCIONO
A.	Deshaciendo el alimento que se ha cocido en ella	1	2
B.	Agregándole tortilla o arroz	1	2
C.	Otro _____ Especifique	1	2
D.	No sabe	1	2

202. ¿Si un niño que ya cumplió 9 meses de edad no está ganando peso adecuadamente, qué debe hacer la madre?

		MENCIONO	NO MENCIONO
A.	Darle más pecho	1	2
B.	Darle más comida	1	2
C.	Darle de comer más veces	1	2
D.	Darle vitaminas	1	2
E.	Llevarlo al médico / centro de salud	1	2
F.	Llevarlo a la monitora de AIN	1	2
G.	Otro _____ Especifique	1	2

203. ¿Cuántas veces al día cree usted que debe dársele de comer a un niño que ya cumplió 1 año de edad?

_____ Veces

9 = No sabe

204. ¿A qué horas le dió a su niño la última comida (**NO PECHO**) ayer?

_____ horas   _____ minutos

66 = No ha dado
99 = No sabe

205. ¿Piensa Ud. que un niño de dos (2) años de edad se puede comer en un día la mitad de lo que come un adulto?

1. Sí
2. No

206. ¿Ha sufrido el niño de desgano o falta de apetito en algún momento?

1. Sí
2. No ----------------- PASE A 214

207. ¿Qué hizo usted para ayudarle a mejorar el apetito?

		MENCIONO	NO MENCIONO
A.	Darle alimentos más seguido en pequeñas cantidades	1	2
B.	Darle comida suave	1	2
C.	Darle pecho más seguido	1	2
D.	Agregarle azúcar y limón a la comida	1	2
E.	Darle vitaminas	1	2
F.	Otro _____	1	2
	Especifique		

208. ¿Buscó ayuda para resolver este problema de falta de apetito?

1. Sí
2. No -----------------PASE A 214

209. ¿A quién le pidió ayuda para resolver este problema?

		MENCIONO	NO MENCIONO
A.	Monitora de AIN	1	2
B	Enfermera	1	2
C.	Médico	1	2
D.	Pariente	1	2
E.	Otro _____	1	2
	Especifique		

210. ¿Qué consejos o recomendaciones le dieron?

211. ¿Siguió estos consejos?

ENCUESTADORA: PREGUNTE SOBRE CONSEJOS Y MARQUE LOS QUE MENCIONA. DESPUES PREGUNTE SOBRE LOS QUE SIGUIO Y MARQUE SOLO LOS CONSEJOS SEGUIDOS EN LA TERCERA COLUMNA.

		MENCIONO MONITORA	MENCIONO OTRA PERSONA	**211.** SIGUIO
A.	Darle vitaminas	1	2	3
B.	Agregarle azúcar y limón a la comida	1	2	3
C.	Darle alimento más seguido en pequeñas cantidades	1	2	3
D.	Darle comida más suave	1	2	3
E.	Darle pecho más seguido	1	2	3
F.	Otro _____	1	2	3
	Especifique			

ENCUESTADORA: SI NO SIGUIO ALGUN CONSEJO, CONTINUA CON 212.
SI SIGUIO TODOS, PASE A 213.

212. ¿Por qué no?

		MENCIONO	NO MENCIONO
A.	No entendió los consejos	1	2
B.	No estaba de acuerdo con los consejos	1	2
C.	No tenía dinero	1	2
D.	No tenía tiempo	1	2
E.	Otro _____	1	2
	Especifique		

213. ¿Qué pasó con el niño?

		MENCIONO	NO MENCIONO
A.	El niño ganó peso	1	2
B.	El niño pareció más sano	1	2
C.	El niño no lloró tanto	1	2
D.	El niño siguió igual / no mejoró	1	2
E.	El niño se puso peor	1	2
F.	Otro _____	1	2
	Especifique		

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214. ¿Hora de finalización de la entrevista?

___ ___   ___ ___
  hora   minutos